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Proposed Greenway of Hatfield, Massachusetts - LA497C - Senior Studio

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HATFIELD MA GREENWAY PLAN

University of Massachusetts Amherst

Department of Landscape Architecture and Regional Planning

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LA 497C: Landscape Planning Studio Spring 2011



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ANALYSIS & ASSESMENT

:: Introduction

Hatfield is located on the Connecticut River with interstate 91 cutting through the center of the town. Hatfield has an abundance of wetlands and floodplains, and the town's relatively old-fashioned culture. As a community they have worked together to buffer the town from some of the more excessive development pressures other Pioneer Valley towns have been facing in the last ten years. At the same time, the town's fertile soil and agricultural industry, along with easy commute distances to many large regional employers, including the University of Massachusetts, have left Hatfield with functioning farmland and a relatively well-educated and well-employed population. The local government has been successful at balancing revenue with expenditures. The town government has also been successful in attracting a healthy commercial and industrial base. An analysis done in the Hatfield Master Plan of community-specific trends in residential and commercial/industrial development offers a view of a possible future for the town. Projecting possible results of existing growth and development trends reveals a conflict between the vision of Hatfield articulated by community residents in 1999 and the development path the community is currently taking.

ANALYSIS & ASSESSMENT

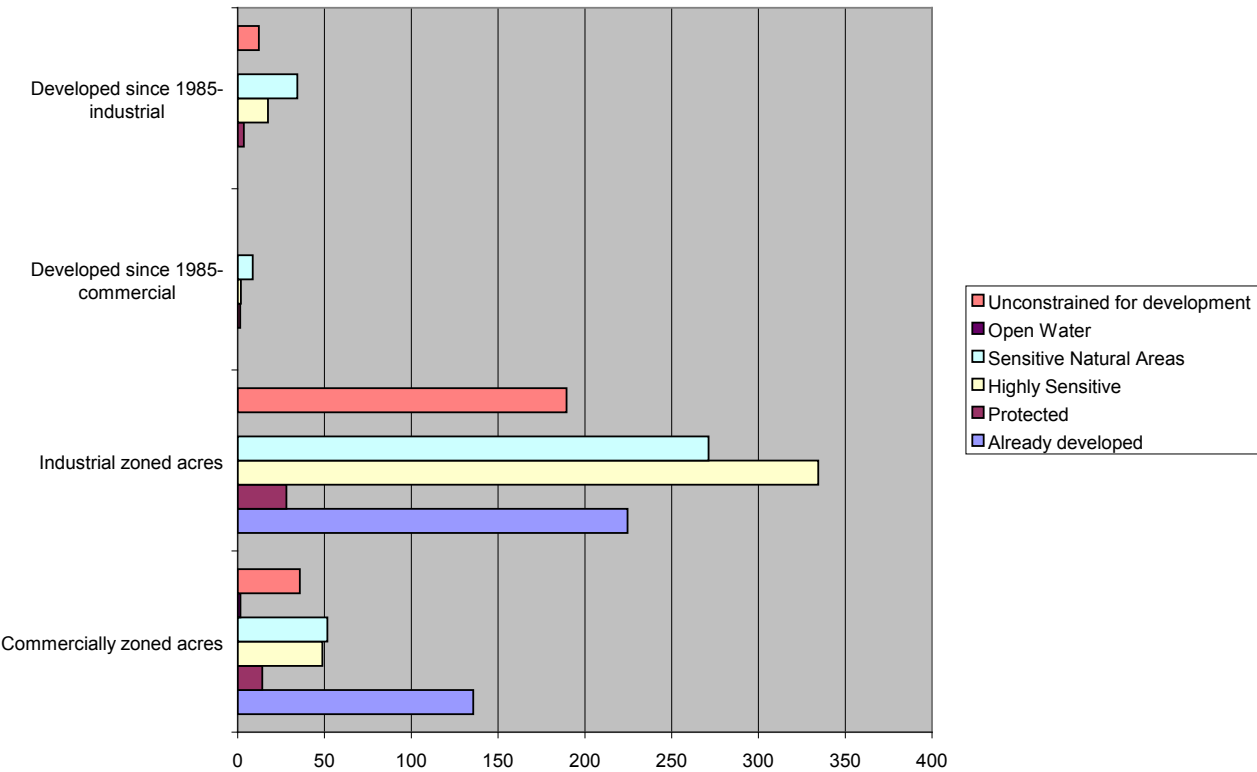
:: Regional Context

Hatfield is located on the Connecticut River with interstate 91 cutting through the center of the town. Hatfield has an abundance of wetlands and floodplains, and the town’s relatively old-fashioned culture. As a community they have worked together to buffer the town from some of the more excessive development pressures other Pioneer Valley towns have been facing in the last ten years. At the same time, the town’s fertile soil and agricultural industry, along with easy commute distances to many large regional employers, including the University of Massachusetts, have left Hatfield with functioning farmland and a relatively well-educated and well-employed population. The local government has been successful at balancing revenue with expenditures. The town government has also been successful in attracting a healthy commercial and industrial base. An analysis done in the Hatfield Master Plan of community-specific trends in residential and commercial/industrial development offers a view of a possible future for the town. Projecting possible results of existing growth and development trends reveals a conflict between the vision of Hatfield articulated by community residents in 1999 and the development path the community is currently taking.

“The most important external force affecting Hatfield’s future land use is regional growth pressure. The most important internal force is the inadequacy of Hatfield’s zoning regulations.”(Hatfield Master Plan—02/18/09, p. 19)

The reason Hatfield is seeing such pressure of residential expansion is the commuter resident growth of the Pioneer Valley region. Many people are working in at the larger more commercial cities and want to live in small historical towns like Hatfield that have a rural aspect to the town. A third of the population commute. From interviewing residents I found that they want to escape from the pressures and stress of the busier cities and towns they commute to. These pressures of residential growth have been limited to existing lots on existing town roads. This is because of reluctance by landowners to sell open land and the absences of sewer access in many parts of town have limited larger-scale developments. Zoning changes that followed the 1987 Land Use Plan and a market for larger homes has actually increased more drastically than the number of new homes. This limited growth in residential development is shown in table one. Business development has almost doubled in this same period because of the easy access to I-91. At the same time this business development has been limited because existing zoning regulations shows that much land currently zoned for commercial and industrial development is too environmentally sensitive or such development. (Reference status of land graph)

STATUS OF LAND



:: Residential Expansion

The Pioneer Valley region is currently being face with strong growth in residential development. The assessors offices of the region’s 43 communities report that from FY 1993 to FY 1998 the number of single family residences grew from 125,492 to 129,979, a 3.6 percent increase, or an annual growth rate of 0.7 percent. Hatfield’s experience is slightly different from the region—an increase of 37 parcels, or 4.2 percent for an annual growth rate of 0.8 percent.

Table One. Number of Single Family Residence Parcels 1993-1997 1996-1997 Community	1993	1997	1998	# of Parcels	%	Annual rate	%	Annual rate
Hatfield	891	919	928	37	4.2%	0.8%	9	1.0%
Hadley	1,377	1,430	1,435	58	5.5%	1.1%	23	1.6%
Northampton	5,209	5,265	5,308	99	1.9%	0.4%	43	0.8%
Southwick	2,327	2,502	2,549	222	9.5%	1.8%	47	1.9%
Pioneer Valley	125,492	129,171	129,979	4,487	3.6%	0.7%	808	0.6%
Avg. /Community	2,918	3,004	3,023	104	3.6%	0.7%	19	0.6%

(Hatfield Master Plan—02/18/09, p. 19)

In the regional land use map we see that this residential expansion is concentrated in the other surrounding towns like Amherst, Hadley, and North Hampton where urban sprawl. This Urban sprawl is creeping towards Hatfield and needs to be controlled to keep the character of the rural agricultural culture. To make sure this character is not under attack we need to prevent excessive large lot zoning which prevents efficient use of land resources, a scattered pattern of residential development that continues to convert agricultural and natural lands to residential use, damaging incursions into natural areas including water supply areas and floodplains, and the absence of barriers to out-of-scale commercial/industrial development.

The growth of industrial development will also increase traffic stemming from this commercial corridor of development on RT 5/10. Also current zoning laws do not limit design standards and guidelines. This gives an un-cohesive feel to development in the town making the town random and confusing.

:: Economic Character

Hatfield's has a healthy local economy with income averages increasing dramatically over the past two decades, along with decreasing unemployment rates, and a stable tax rate. With this strong economic base Hatfield has substantial undeveloped land zoned for commercial or industrial use. On top of this the majority of the community is open to the idea of new businesses. With this the new Industrial park is proposed in the North of Hatfield where West Street and Rt. 5/10 meet. This new industrial park will bring jobs and money to the town. At the time there are scattered business districts in the all areas of town

:: Existing Business Districts in Hatfield

Hatfield has business districts scattered throughout all areas of the town. The business districts of Hatfield include the following:

• South Hatfield—Route 5:

This district is adjacent to the Northampton-Hatfield town line, and is the town's largest concentration of commercial uses, with some industrial uses mixed in. The district includes retail uses such as Rugg Lumber, Danish Inspirations, and Long View RV Superstores, and industrial uses such as Wilderness Mold and Mill Valley Molding.

• Central Hatfield - Route 5:

This district is located in the middle of the Route 5 corridor, with commercial and multi-family residential uses including FedEx, Diamond RV Center, and Penske Truck Rental.

• North Hatfield—Route 5:

A small commercial center exists along Route 5 in North Hatfield, including several retail outlets and a construction company.

• Town Center:

Hatfield's historic town center includes modest commercial uses combined with civic and residential uses. Across from Town Hall, the town's retail center is very small, consisting mainly of a convenience store and gas station. There is also a modest commercial area at Prospect and School Streets, which includes the Valley Advocate and Hatfield Market.

• East I-91 Industrial Corridor:

Virtually the entire east side of Interstate 91 in Hatfield has been zoned for industrial use. This area is home to Hatfield's largest employers, including C&S Wholesale Grocers and Brockway-Smith, and smaller firms such as Lesco and Lynx Window and Door.

• Other Commercial Areas:

Isolated businesses are scattered in many other locations throughout the town.

Hatfield has a number of large employers, including C&S Wholesale Grocers with about 1,000 employees, New England Telephone with 130 employees, Brockway-Smith with 110 employees, and Mill Valley Molding, Hatfield Equipment, and Hatfield Public Schools, all with 50-100 employees.
(Hatfield Master Plan—02/18/09, p. 22)

:: Economic and Employment Trends

Hatfield's population remained stable with a 3 percent increase and income increased dramatically by 156 percent and household by 128 percent. Hatfield residents seem to be relatively comfortable financially compared with residents in our surrounding communities like Hadley, Northampton, Southwick, Hampshire County, and the state average. Hatfield increased its income per capita a full 30 percent more than it did for these surrounding communities in Hampshire County

Not surprisingly, the unemployment rates are declining. The unemployment rate in Hatfield peaked at 7.93 percent in 1992 and has been declining ever since to its last recorded rate of 3 percent in 1998. Hatfield's rate compares favorably with the regional and statewide unemployment rates, which are each hovering around 3 percent right now.

:: Types of Employment/Employers

According to The Massachusetts Division of Employment and Training, 93 percent of people that work in Hatfield are employed through service jobs compared to manufacturing jobs. With these jobs we see the majority of persons employed in Hatfield are working in the trade and services sectors. Jobs in the trade sector are defined as including “establishments or places of business primarily engaged in selling merchandise to retailers; to industrial, commercial, institutional, farm, or professional business users; or to other wholesalers, or acting as agents or brokers in buying merchandise for or selling merchandise to such persons or companies.” Hatfield Master Plan—02/18/09, p. 23

The largest single employer in Hatfield is C & S Wholesale Grocers, which is an example of this trade sector. Jobs in the service sector are defined as including “establishments primarily engaged in providing a wide variety of services for individuals, business and government establishments, and other organizations: hotels and other lodging places; establishments providing personal, business, repair, and amusement services; health, legal, engineering, and other professional services; educational institutions, membership organizations, and other miscellaneous services.” Hatfield Master Plan—02/18/09, p. 23 In Hatfield, businesses such as Hatfield Equipment Company falls under this category. Along with these service and trade sectors of employment there are also many self employed. These are mostly Farmers and internet based workers. These two self employed sectors have a different effect on the local economy and require different types of help from the town than if people are running Internet-based businesses out of their homes. If people are self-employed and running internet businesses, they are likely to be concerned about expanded digital telephone lines and internet connection. And when farming they are more likely to be concerned about land use and the price of land.

:: Farm Economy

Since farm work has been such an important part of the economy in history it is important to protect these farm lands with the recent decrease in full time running farms in Hatfield. Many residents perceive Hatfield as having lost farm employment in the last 20 years. Reports from the assessor’s office show that, in the last 20 years, three of the 19 families that farm full-time in Hatfield have stopped farming. This means a 15 percent drop in full-time farming.

There are many current issues with farming in Hatfield. The Hatfield’s rural landscapes are threatened. Hatfield’s rich, fertile farmlands continue to be unprotected from development. The depletion of farm land is not drastic but is steady and over time could be a serious impact to the culture and history of Hatfield’s land being defined by

agriculture and open farm land. The problem with farm economy is that Hatfield is not taking advantage of all the tools available to protect farmland. In the Hatfield Master plan they look to work with current local zoning regulations and subdivision regulations to encourage the practice of agriculture. They should be aggressive in applying for funds from the Department of Food and Agriculture (DFA) and Agricultural Preservation Restriction (APR). These will help protect the land that have historically have been the base of Hatfield’s economy while at the same time providing rich diverse habitat that can offer pastoral landscape/scenic views and attracts tourism that could also strengthen the economy.

:: Infrastructure

The towns infrastructure has two big issues they face. First, the town does not have proper funding to maintain existing infrastructure and public facilities when the infrastructure was constructed. Now that the infrastructure is getting old it is not cost effective to renovate the buildings it would make more sense to rebuild. Second, the town has ignored the surrounding pressures of development giving there infrastructure an outdated and less attractive infrastructure. The first issue suggests the need for large-scale upgrading of Hatfield’s infrastructure to save the town money in the long run. However, such an upgrade of the town’s infrastructure, especially upgrades to the sewers and roads, could lead to a significant influx of new development.

:: Water Supply

Hatfield’s water supply comes from three different sources: the town reservoir (capacity of 500,000 gallons per day); the West Hatfield Well (capacity of 350,000 gallons per day); and the Omasta Well (capacity of 150,000 gallons per day). (Hatfield Master Plan—02/18/09, p. 65)

Most of the water usage is drawn from the reservoir as the per gallon cost to operate the wells is much higher than that of the reservoir. The existing water treatment plant is located at the reservoir on Reservoir Road in West Hatfield.

The current distribution system is composed of asbestos-cement (AC) pipe. This type of pipe was popular from the 1940’s through the 1960’s, but this material is susceptible to leaks. Small breaks can easily become major pipe failures over time. The piping material is being replaced as portions of the system are upgraded because of the brittle material and the size of the pipe is not wide enough. There is a need to eliminate the dead end water line at North Main Street and an increase of width on pipe at North Main Street and Depot street. Other aspects of the water supply that need to be addressed is the need for water meters to limit and monitor water usage. Well heads are under attack because they are not protected there needs to be protected from hazardous

ground water runoff into the well heads. These wells provide water for 25 percent of the population. The last thing needed to Be addressed when related to water supply is the expansion of the system to industrial zoned areas where new development is needed to further the economic future of the land.

:: Sewer

The next Institutional issue is sewer lines. The waste water treatment plant is 13 years old and has ongoing maintenance issues that need to be addressed because the upkeep will cost more in the long run than addressing the problems and upgrading now. Only a third of the towns use the water treatment plant. There is a need to run lines out to areas like rt. 5/10 where currently businesses are running on septic systems. Like the Water systems these need to be updated to systems similar to the surrounding towns.

:: Cable

Hatfield’s cable service is through AT&T Broadband and has a five-year contract with the company. Cable availability for residential customers is widespread and easy to access throughout Hatfield except for Mountain Road. But for Commercial users there is no cable modem service available yet. AT&T Broadband remains in the research phase of development of the infrastructure and technical support needed to serve this community. There is no established time frame for providing this service.

:: Internet

In the terms of a contract signed in January 2000 between Massachusetts and Digital Broadband Communications says that infrastructure will enable high speed Internet access to all public buildings. This will be much more cost effective than outsourcing AT&T Broadband service as they previously did.

:: Telecommunications towers

At the current time there is only one telecommunications tower located in the town. Five different cell phone service providers use this structure that is adjacent to I-91 since its construction.

:: Gas and Electric

Berkshire Gas Co. is the natural gas service to certain portions of the town. Hatfield’s site plan review calls for all electrical lines to be placed underground for aesthetic purposes as well as safety reasons. This will make above ground system is unusual because almost all commercial electric lines require underground utilities. This is something that needs to be updated as soon as possible.

:: Transportation

• Roads

The Pioneer Valley Planning Commission had a pavement management study for Hatfield in 1997. The study addresses the town’s current pavement maintenance needs. They then made schedules and cost-effective solutions to revitalize the conditions of roadways. Pavement management information also assists in allocating resources to maintain eligible roads. The 1997 study indicates that the 32 miles of federal-aid eligible roads in Hatfield—including King Street, North Hatfield Road, Elm Street, Main Street, and Routes 5/10—are all operating at fair or better condition. Twenty-two percent of the roadway segments are in excellent condition, while 78 percent are in fair condition. (Hatfield Master Plan—02/18/09, p. 67)

• Transit

The Franklin Regional Transit Authority (FRTA) has bus lines run four times a day on Routes 5/10 four times a day. This service is designed to serve C&S. The town needs to become a member of the Pioneer Valley Transit Authority (PVRTA) because if we establish bus service along fixed or variable routes in Hatfield it could be an affordable way of providing transportation services to elders, students, and local workers, but it would add to traffic congestion.

• Rail:

Guilford Transportation Corporation runs the freight line that runs north-south through Hatfield next to the I-91 corridor. This rail line does not need any upgrade. The rail line can provide transport for proposed industrial sites of hatfield and Guilford Transportation Corporation will be able to match potential users with the available sites zoned for industrial development. This Idea can further the economic development of Hatfield.

ANALYSIS & ASSESSMENT

:: Natural Features

(sources from 2009 Hatfield Master Plan)

:: Hydrology

Approximately thirty-five linear miles of river and stream channels cross the landscape of Hatfield, including seven and a half miles of New England’s treasured Connecticut River. The Connecticut River forms all of the eastern and much of the southern boundary of the town and has influenced everything from settlement patterns to agricultural productivity.

Land use patterns along the Connecticut River in Hatfield show that most of the acreage within 2,000 feet of the riverbank is in agricultural use. At several points along the river, forestland provides a vegetated buffer to human activities although much of this forest area is quite narrow—less than 200 feet deep. The town center area parallels the river for approximately two miles, coming within 800 feet of the bank for much of this stretch. Most of this riverbank, however, remains unprotected from development.

Much of the land adjacent to the Connecticut lies in the 100-year floodplain (as determined by the Federal Emergency Management Agency (FEMA) Flood Insurance Maps and corrected by analysis of the USGS topographic maps). This situation provides a high quality of agricultural soils in the area as evidenced by the land use data showing the predominance of agriculture in the town’s floodplain areas.

The entire land mass of the town is situated in the Middle Connecticut River Watershed Basin. All naturally draining surface water in Hatfield eventually finds its way to the river. There are three major sub-watersheds in the town as identified in the 1989 Hatfield Open Space Plan. These include:

Running Gutter Brook (west and south Hatfield)

This sub-watershed has its genesis in the upper reaches of West Hatfield along Mountain Road and includes the Hatfield Town Reservoir. The brook is also fed by inputs from Whately and Northampton. Two minor watershed areas in West Hatfield drain into Northampton, one of which includes Mountain Reservoir. About one-third of this 35-acre reservoir is in Hatfield’s far northwestern corner.

Mill River (central Hatfield)

This watershed is drained by the Mill River, a tributary of the Connecticut River that has its headwaters in the town of Conway. Running Gutter Brook joins this river just east of I-91 in south central Hatfield. Rich wildlife habitats are formed in the broad marshes

resulting from the historic damming of the Mill River at Prospect Street.

Broad Brook (Northampton border)

This stream feeds into Running Gutter Brook from Northampton.

Old Connecticut Oxbow (northeastern Hatfield)

This area drains the remnants of an old Connecticut River meander—once an “oxbow lake”—including Great Pond and Cow Bridge Brook. The area is now a significant wildlife habitat area as well as a flood storage area for the Connecticut River.

:: Public Water

Of the three sources of drinking water in the town of Hatfield, the community has come to rely heavily on but one—the Running Gutter Brook Reservoir. This surface water source provides most of the water reaching homes and businesses in the town. A filtration plant prepares the water for distribution to users in the town. Two public wells supplement the supply from the reservoir: the Omasta Well and the West Hatfield Well, neither source of which is treated with filtration or chlorination. Cost has dictated the choice of primary water supply from the reservoir as the operation of the filtration plant remains less expensive than the electrical power used to operate the two wells. The wells are used primarily in two situations: 1) to provide adequate water supply during peak demand hours (summer months), and 2) to bypass the reservoir supply during times of high turbidity (primarily after heavy rainstorms).

Water Source	Approximate Annual % Total Water Supply
Town Reservoir	70 %
West Hatfield Well	20 %
Omasta Well	10 %

:: Wetlands

Wetland areas are home to frogs, fish, freshwater clams and mussels, beaver, muskrats, great blue herons, waterfowl, and bitterns. Wetland habitats in town occur along stream and river corridors with some isolated ponds and pools in places like The Rocks in West Hatfield. In Hatfield, wetlands and water resources stretch from the hills in the west to the Connecticut River on the east and from Whately on the north to Northampton on the south and compose approximately 22 percent of the town. Wetlands include rivers, ponds, swamps, wet meadows, beaver ponds, and land within the FEMA-defined 100-year flood area.

Riparian areas are the vegetated lands adjacent to water sources. This juncture of land and water attracts a range of species and tends to mark a transition zone between habitats. As such, these corridors link one habitat to another. In Hatfield, the riparian areas exist along the Connecticut River, Mill River, Running Gutter Brook, and Great Pond. Many of these riparian areas remain intact, aided by the Rivers Protection Act and regulations restricting floodplain development. However, floodplain regulations in Hatfield are not as effective as they could be. An ineffective floodplain overlay district requires revision or replacement with a bylaw that can decrease inappropriate development if the community wishes to do so.

:: Habitat and Wildlife

Hatfield’s landscape has been, and will continue to be, a home for animals as well as people. General habitat types determine the wildlife species that exist in each area. The Massachusetts Department of Environmental Protection (DEP) has delineated several habitat environments and resource areas. This information can be used to help define the location and type of future growth as well as areas subjected to environmental constraints. These areas are graphically defined in several maps. Map 2 shows the Federal Emergency Management Agency (FEMA) floodplain and the 200’ buffer areas that are associated with the State Rivers Protection Act. Map 3 identifies the estimated habitat associated with rare and endangered species. Hatfield has three predominant habitats:

Grasslands and Open Fields

These areas are habitat for grassland birds such as meadowlarks, bobolinks, vesper sparrows, and mammals such as mice. These areas occur generally in the parts of Hatfield east of I-91 and include much of the town’s agricultural lands.

Wooded Areas (Forestlands)

These areas are habitat for bears, coyotes, deer, grouse, woodpeckers, squirrels, porcupines, and deep wood songbirds such as wood thrush, scarlet tanager, and veery. The forest resources and woodlands in Hatfield lie primarily west of the I-91 corridor. The forestland encompassing approximately 4,800 acres, which consists of 45 percent of the total land area in the town. There has been a slight decline of 75 acres, or 2 percent, in forested cover since 1985. The residential development that has occurred recently along Linseed Road and Mountain Road accounts for some of this land conversion.

The study for the Conservation and Recreation Plan completed for the town in 1989 catalogued approximately 135 species of trees and shrubs in this forestland, including those used for commercial application. The species defined as prime woodlands with

commercial value are white pine and red oak that grow easily in the conditions in West Hatfield. Hatfield is in the enviable position of having significant forest resources that can benefit wildlife and residents of the community. Protecting and enhancing these resources can provide long-term economic benefits as well as protection for the diversity of wildlife species that are fully dependent on the forestlands.

:: Critical Habitats and Endangered Species

The Massachusetts Division of Fisheries and Wildlife’s Natural Heritage and Endangered Species Program has mapped areas of critical concern for threatened and endangered species within the town of Hatfield. These areas are generally shown on the Hydrology and Protected areas map. Approximately 493 acres are identified as priority habitats for these species. The plants and animals that fall within this classification are identified in the table below.

Status	Status
Shortnose Sturgeon	Endangered of extinction
Eastern Silvery Minnow	Special Concern, suffering decline
Eastern Pond Mussel	Special Concern
Triangle Floater (mussel)	Special Concern
Marbled Salamander	Threatened, likely to become endangered in the foreseeable future
Wood Turtle	Special Concern
Least Bittern (bird)	Endangered
Pygmy Weed (plant)	Threatened
Green Dragon (plant)	Threatened
Tufted Hairgrass (plant)	Endangered
Intermediate Spike-Sedge (plant)	Threatened
Frank’s Lovegrass (plant)	Special Concern
Dwarf Wedge Mussell	Endangered
Sandbar Willow (plant)	Special Concern

Source: Massachusetts Natural Heritage and Endangered Species Program

These species are dependent upon habitat provided by riparian and wetland resources as well as forest resources. There are over 5,000 acres that provide productive habitat for wildlife species in Hatfield, including forest, open waters, and wetland. Approximately 500 of these acres include areas that are priority sites for rare and endangered species. Preventing the extinction of these species is critical to maintaining biodiversity in the Pioneer Valley. A biologically diverse native ecosystem is important to ensure stability of all plant and animal species. On a global scale, it is essential for human health as well. As the number of species within an ecosystem declines, the remaining species become more dependent upon fewer resources for survival. In many cases, the elimination of one species leads to the demise of another or many others when such species cannot adapt to the reduction and change in their environment.

:: Geology and Topography

The soils that lay beneath Hatfield consist of mainly till or bedrock west of 91 and flood plain alluvium and sand/gravel deposits to the east. (See map: Soils) Much of these areas, especially in the Connecticut River flood plain are prime farm land. (See map: Prime farmland)

The topography in Hatfield varies greatly. To the east of I 91 is the moderately flat (0-8%) flood plains of the Connecticut River. To the west of I 91 is a very dramatic increase in elevation with slopes varying from 8% all the way up to 35% in its steepest areas.

Source:
Hatfield Master Plan

ANALYSIS & ASSESSMENT

:: Recreation and Protected Open Space

:: Open Space and Recreation

Being a small-scale, decentralized, rural population, it is difficult for the town to provide many formal recreational locations, with the exception of school grounds. By looking over a map of Hatfield's recreational land uses, it is clear the abundance of green spaces, the majority of which are open spaces and forested landscapes. Hatfield's historic districts and town center are juxtaposed within this mosaic of floodplains, open meadows, agricultural fields, and healthy forests – giving the town a healthy amount of open space for its small population of just over 3,000. In the last few decades of development, there has been growing support of the protection and conservation of open spaces from development by town residents and officials. Land parcels in Hatfield which surround surface water supply at the town's reservoir have been purchased and protected to supply a safer supply of drinking water. This protection also benefits the areas wildlife population, and expands its recreational opportunity. The town owns many open space areas prime for recreational opportunities, but this does not mean that the lands are actually protected from development. Priority Open Space Developments Map illustrates the relationship between bio-core habitats and prioritized developments. There seems to be a strong level of protection in the northeast of Hatfield, where there is established forest, as shown on Hatfield Open Space Map. Also, note the abundance of bio-core habitat that runs adjacent to Interstate 91, an obstacle and negative force against species which cannot safely cross the highway.

Currently, Hatfield has an abundance of open space but limited recreational lands formally established for Hatfield's residents. As noted above, formal recreational land is dominated by school grounds, such as Smith Academy and Breor School, both of which have these fields primarily for athletic events. Other activities such as hunting, boating, walking, and snowmobiling are supported by the landscape.

Public parks are limited in Hatfield. The town playground sits on The Breor School while the site of the former Smith Academy is used as a town park, still owned by the private school. Both cases are in need of further expansion to satisfy the needs of the townspeople. There has been attention drawn towards the revitalization of the town park to transform it into a more inviting town common. Hatfield residents support this move and many of their concerns regarding the improvement of town parks have been recorded in the Hatfield Master Plan.

Public recreational facilities at Smith Academy, Breor School, and the land behind the old Junior High School is used by adult and school leagues such as baseball, soccer, and softball with permission of the respective schools. Tennis Courts at Breor School

are in need of repair and not usable. Residents of Hatfield enjoy other activities such as hiking, jogging, and walking informally, with special attention to the scenic Connecticut River. Another note to take on the river is its informal link along the river and into the town center.

Although many residents enjoy off-road vehicles, such as ATV's, there has been a negative reaction by many residents to the use of these vehicles due to their noise, safety hazards, and erosion of trails. In response to the lack of public facilities, residents have invested their own land and money into building private basketball courts, swimming pools, and other private facilities on their own property for their own use. A common aspect of traditional New England towns is an established town center – a missing characteristic in Hatfield. Hatfield Town Center Map explores Hatfield's town center's open space and the relationship between established features, such as police and fire stations, libraries, town hall, and potential open spaces for further expansion adjacent to these features.

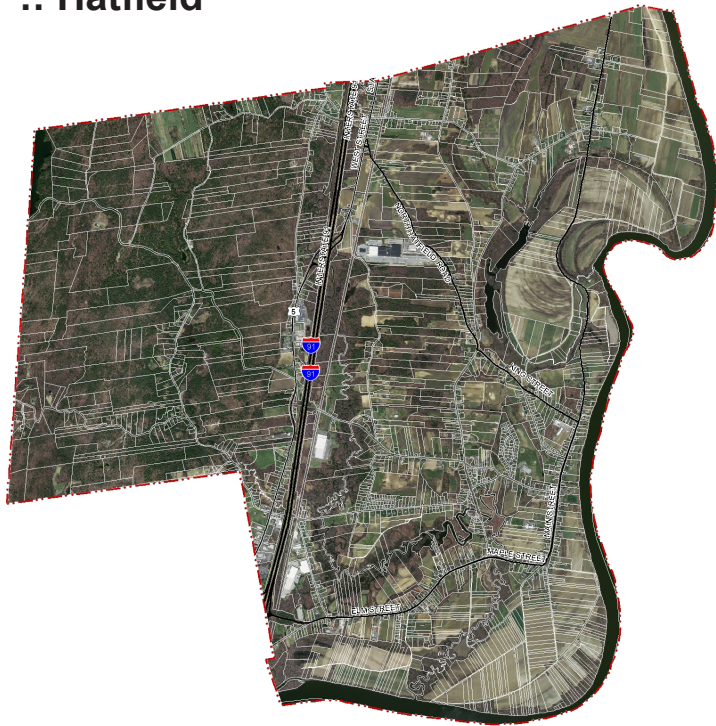
GREENWAY DESIGN

:: Introduction

Our team focused on creating a greenway system of community walking loops. These hierarchies of loops are proposed in areas of town that have members of the town highlighted as exiting areas they use for recreation. From these loops we connect through a system of linkages along road sides with proposed street trees, on the edge of riparian buffers, and along the borders of private property. These connections to the loops along this linkage system create an interior greenway for the residents of Hatfield. Along with this interior green way a connection to exterior bike path green ways come in from the North Hampton bike route through to Hatfield's proposed residential dike road green way over to Main street green way and into Whatley.

Our greenway also connects Hatfield's west and east side under Route 91. This connection is going under existing Mill River under pass connections. So these passages will be built into the exiting structure of the underpass so it will not interrupt the ecosystem of the Mill River. This is an important greenway connection because it connects all of our loops of Hatfield into a connected greenway system. This system is comprised of an interior residential green way (that connects small neighborhood loops), a bike path greenway that passes through Hatfield center (connecting the surrounding towns and bringing in commerce), and an ecological greenway (following the bio-core habitat and the mill river floodplain). With these three interconnected greenways we have a Hatfield's greenway master plan.

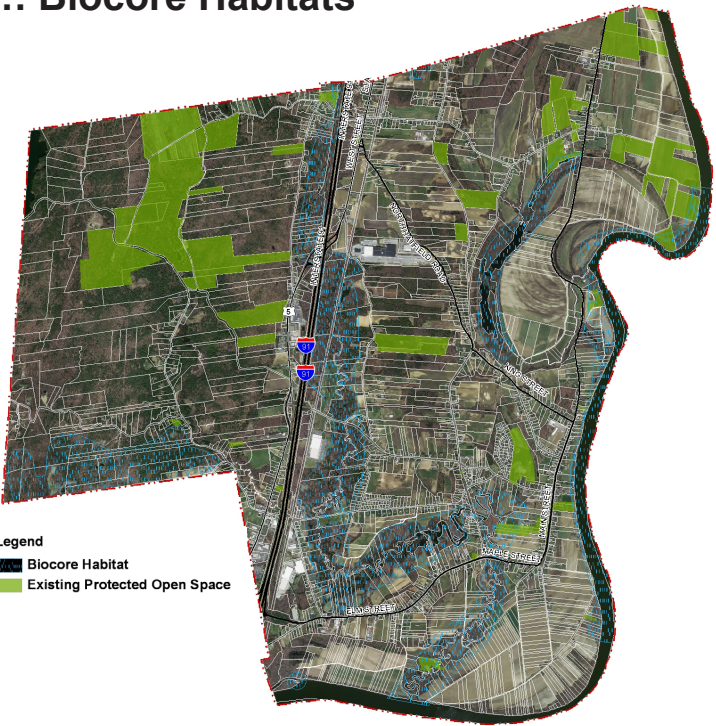
:: Hatfield



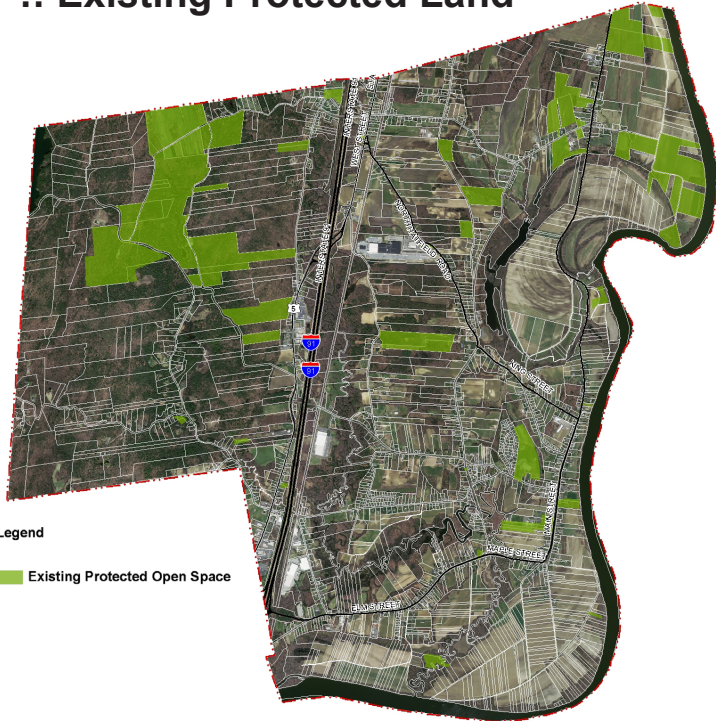
Hatfield, divided by 91 with the Connecticut River to the East

:: Biocore Habitats

The Bio-core habitats represent areas where numerous species live and their ecosystems. These areas are usually in areas like floodplains and densely forested areas. As you can see on the map of hatfield most of the bio-core habitat area is located along the mill river and its tributaries. These bio-core habitats are very important to the culture and ecosystem of the town and need to be preserved.



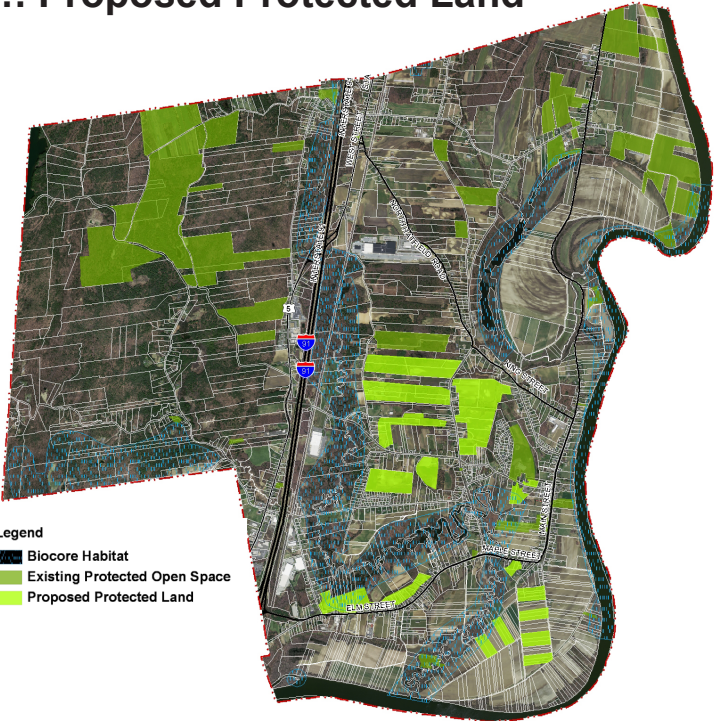
:: Existing Protected Land



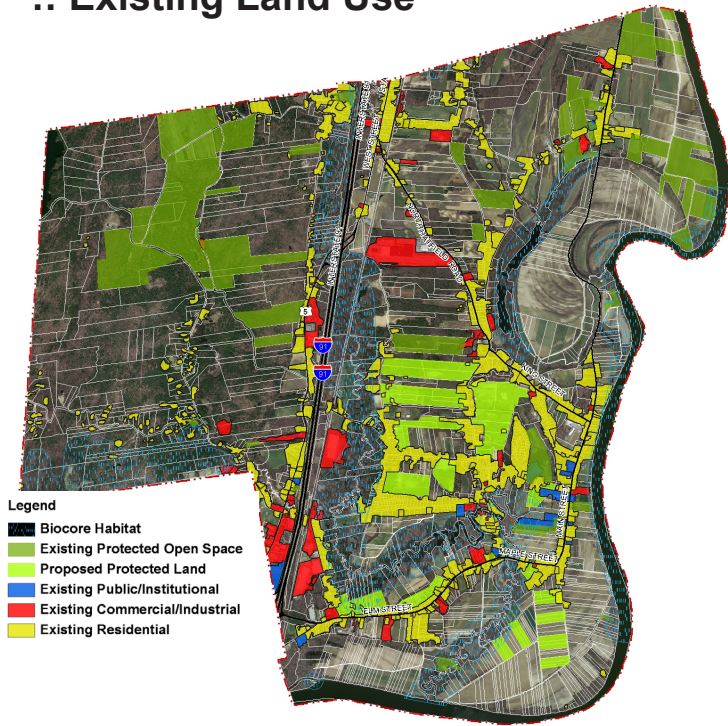
The existing protected space represents land that is already protected in one way or another. As we can see areas like smaller farm land plots and large portions of eastern hatfield is not protected. With the influence of urban sprawl creeping up to hatfield we need to protect more open space in key areas especially in areas like the center of town where development is currently an issue.

:: Proposed Protected Land

The proposed protected land represented in bright green you can see is focused in the center of hatfield. This area where development will become an issue very soon. By proposing the tiling of certain existing farm lands as protected space we can have a series of neighborhoods that are separated by protected open space.



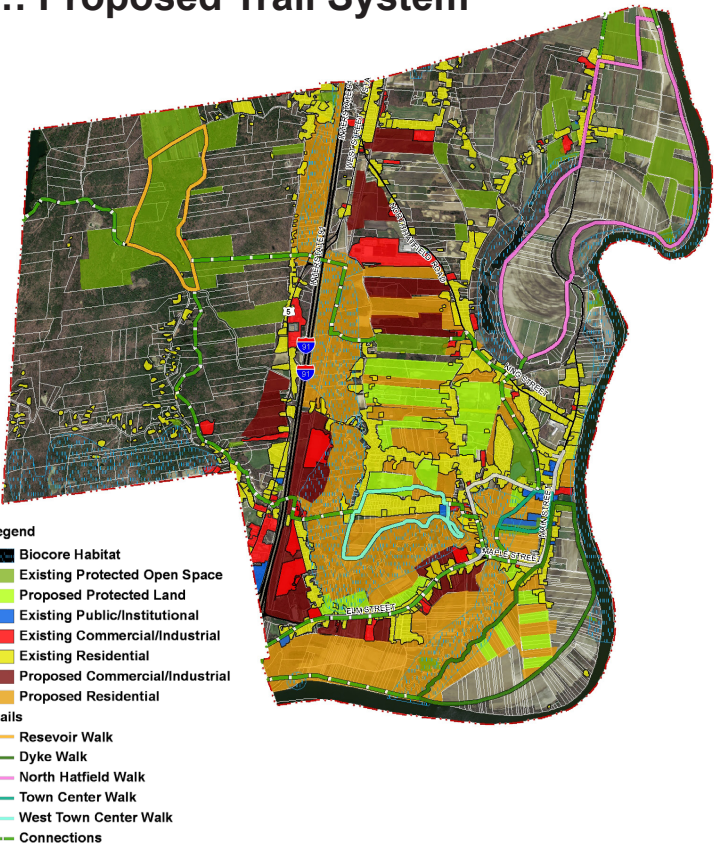
:: Existing Land Use



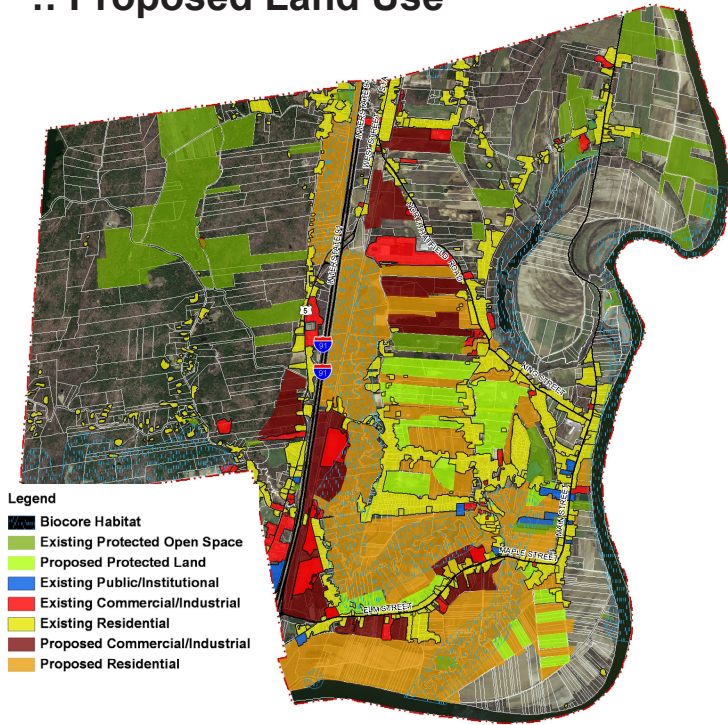
As shown in map, institutional land use is concentrated in town center. Dispersing out from the center of town are strips of residential areas, which are in constant development and expansion through Hatfield. Commercial and industrial land uses are in closer proximity to I-91, but also are potentially expanding outward.

:: Proposed Trail System

The map describes how this our green way system connects with our proposed zoning changes and proposed protected open spaces. This system of neighborhoods loops shown by the bright colors are connected by a linking greenway system that runs through and across town. When making this linkage system we tried to make connections through existing protected open space and proposed open space to cut down on passing through industrial or residential zoned areas. The system connects Hatfield to the surrounding towns but doesn't allow them to intrude into the private residential walking loops and spaces. Over all the existing/proposed zoning and existing/proposed protected open space help us understand how the greenway system works.



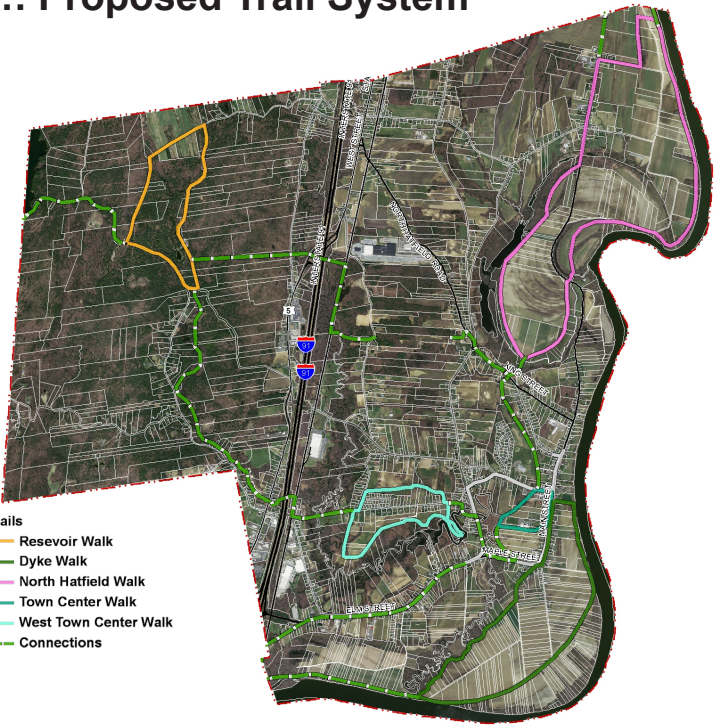
:: Proposed Land Use



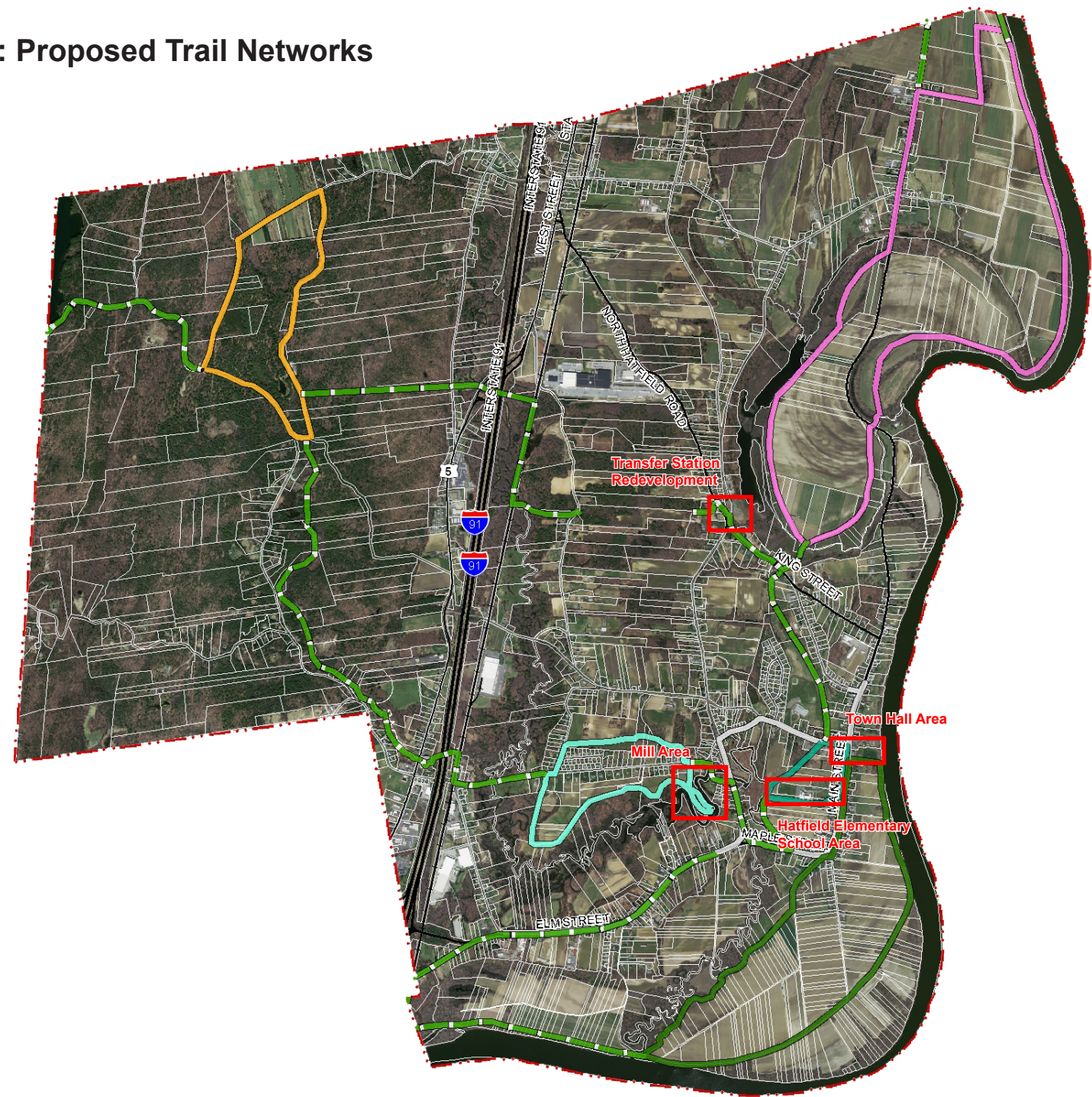
We chose to use the existing land use to draw out a plan which will work with the developing land uses to control their direction and concentration. By doing so, we established a series of land uses that integrate well with the implication of a greenway design through Hatfield. For example, residential areas in our proposed plan are zoned to become denser in urbanizing areas, such as town center. The control of expanding land uses allowed us to weave a tiling system of connected greenspaces throughout town.

Finally the complete trail system that navigates through out Hatfield and connects to its neighboring towns.

:: Proposed Trail System



:: Proposed Trail Networks



The map above displays the relationship between the proposed trail system and our focus areas.

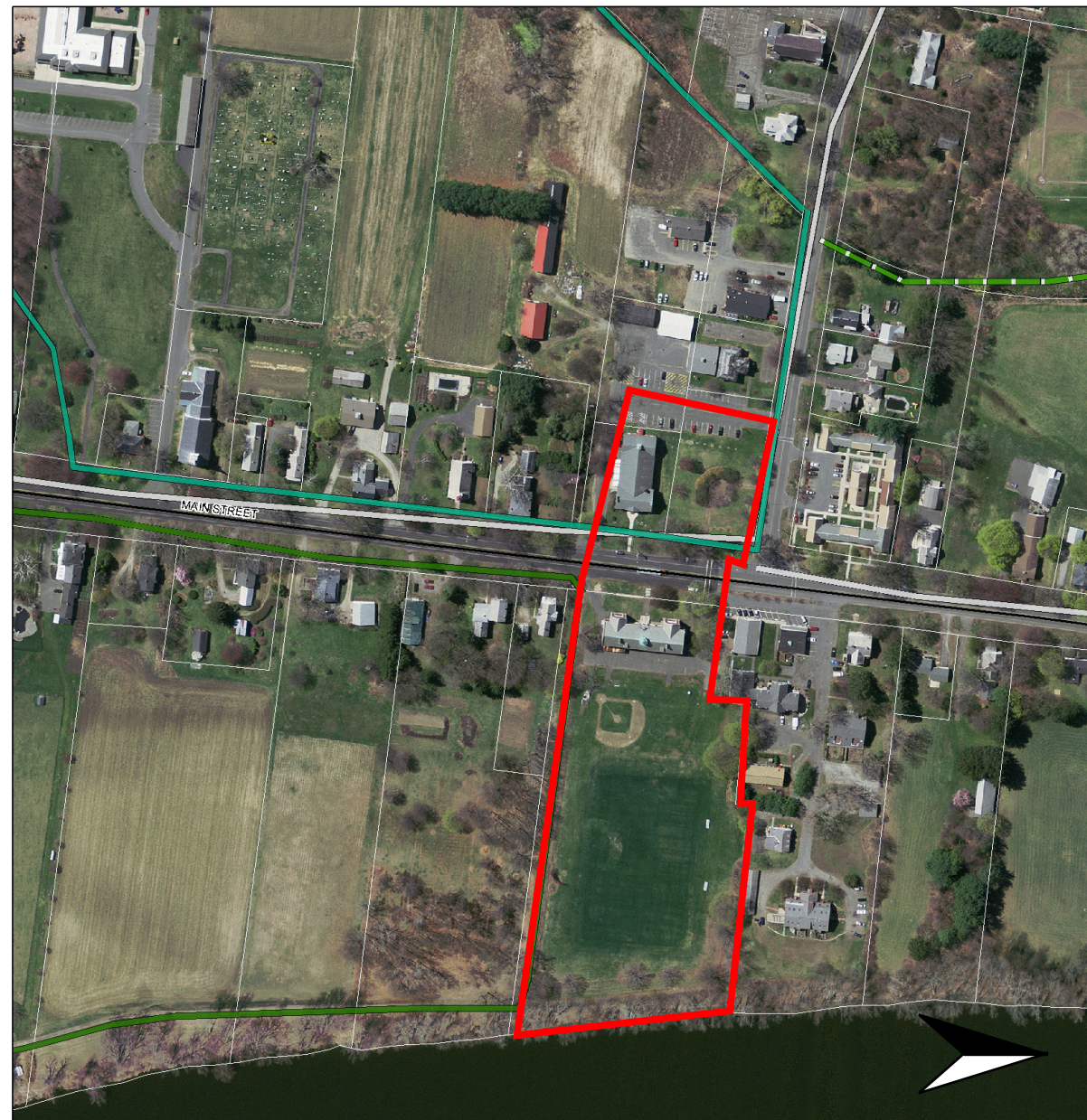
GREENWAY DESIGN

:: Town Hall Area

The town center of Hatfield is located on Main Street and contains mainly residential properties until the Elementary school and the library. Further north is the Town Hall which contains the police station and the fire station in the rear. Across the street from the Town hall sits the abandoned building that was once used as a school. In the rear between the building and the Connecticut river sits a large field that is surrounded by the dyke on two sides. The dyke to the south is actually a town road and is apart of an existing trail system along the dyke.

Although the Town Center is a very pleasant place there is some room for improvement, as was heard at the town meeting. Some of the request at the meeting were to improve the sidewalks/path systems around the town, Create more active recreation in the town for activities like soccer, baseball, and tennis. To have a band stand and or a performance area and to have a place for the youth to enjoy and be engaged.

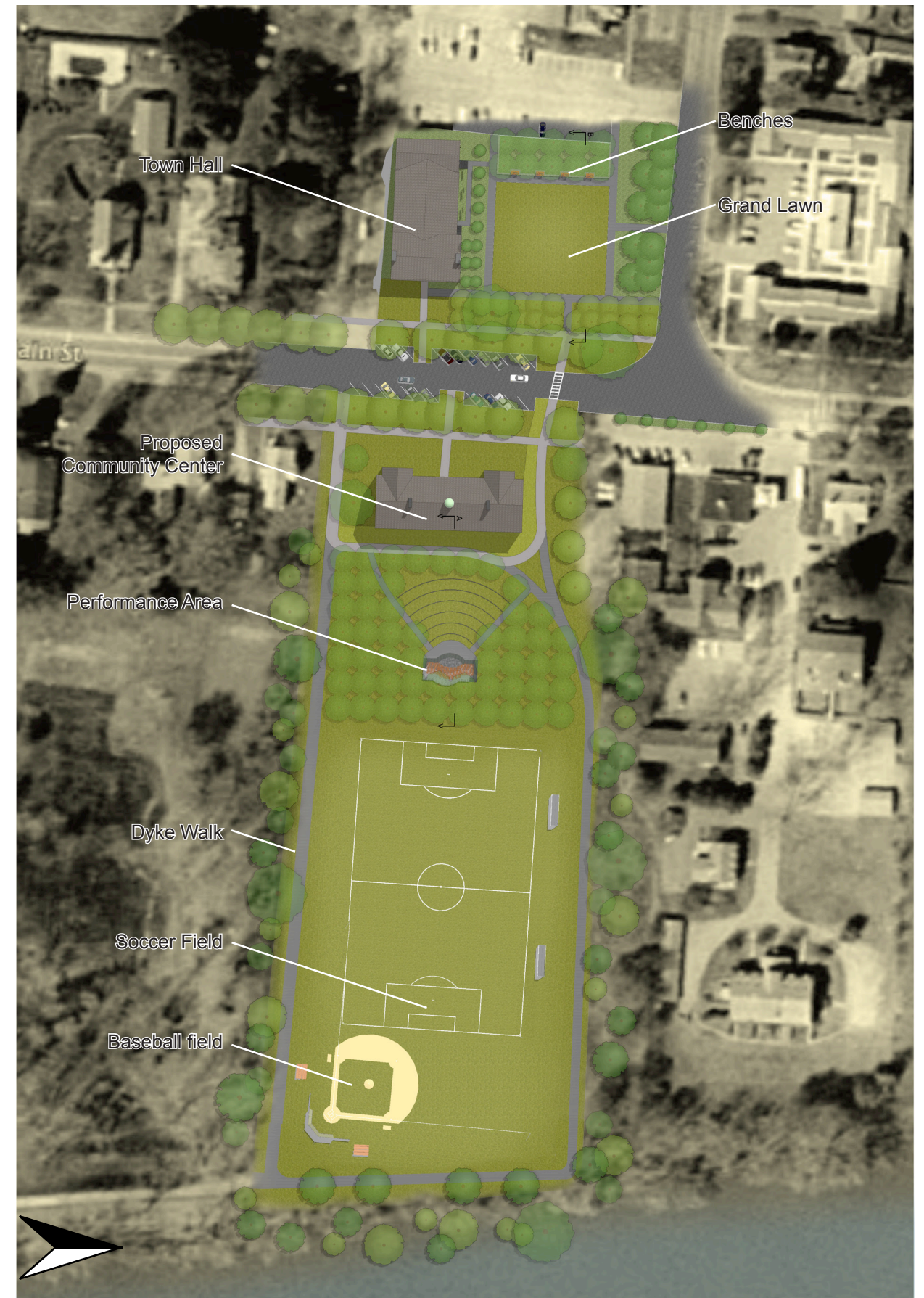
From this I focused on the area surrounding the town hall and the vacant school building and fields. Overall i wanted to create a more defined town center along with an improved connection to the existing and proposed trails in town.



Existing Site with Boundaries

The existing site shown above, has two trail networks running through it. The Dyke Walk, as well and the Town Center Walk. The existing field is surrounded by farm land to the South and residences to the North.

The Town Hall is surrounded by residential to the South, municipal and commercial to the West, and commercial/residential to the North. The lawn next to the Town Hall has a small gathering area with vegetation surrounding it. The residence at the town meeting said the space is under utilized and could be redeveloped



Proposed Plan

:: Proposed Section - Town Hall

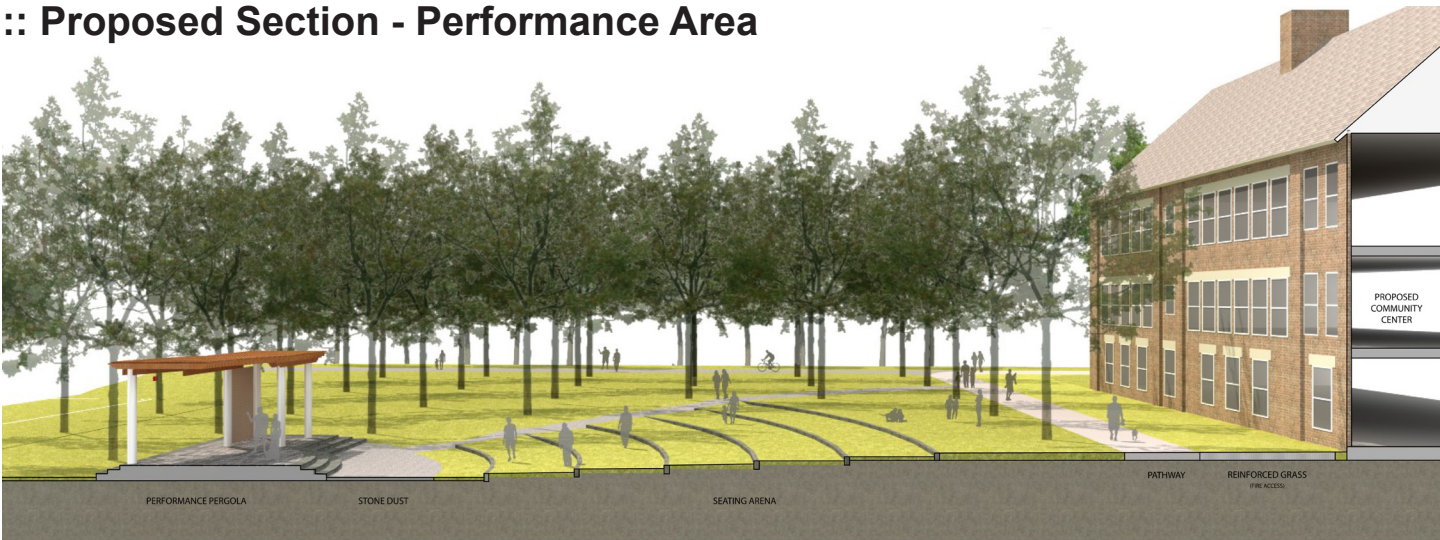


The tree lined sidewalks create a buffer between Main St. and the Grand Lawn to help block the noise of cars and create privacy. Stepping in to the town common, there is a raised grassy area that is bordered by granite curbing cut on a 45 degree angle. Surrounding it is a stone dust pathway, leaving a more natural feel then concrete of asphalt.



Towns people and passer byers out enjoying the beautiful day in the town common. Waving hello to neighbors and co-workers on there lunch break.

:: Proposed Section - Performance Area



The Performance area is located behind the Proposed Community Center. It is terraced down the existing landform in ten foot increments, creating a comfortable lounging area for views, allowing them to lay down or set up chairs. The steps are held up by granite curbs that arch around the performance pergola in a grace full curve. At the base is a beautiful masonry stepped platform featuring bluestone treads and a wet laid bluestone patio with a granite veneer surrounding it. Atop sits an artfully crafted performance pergola. The contrast of the trees and the white columns look stunning in the shadows of the canopies.



A closer look at the seating. Parallel to the grand lawn is a long, snapped blue stone retaining wall with blue stone caps. Along it are a series of indented seating areas with wooden benches. Above is a wooden structure that resembles the tobacco barns of the area. The planting bed behind it serves as a buffer the parking lot by blocking the views.



The School Street entrance. Entering through a canopy of trees, the grand lawn is in front of you as well as the historic town hall.



From the rear of the amphitheater, the view through the trees and the pergola is intriguing. The movable lattice panels create a backdrop for performances or shows.



An overview of the Community Center fields. The performance pergola is in view as well as the sporting fields.

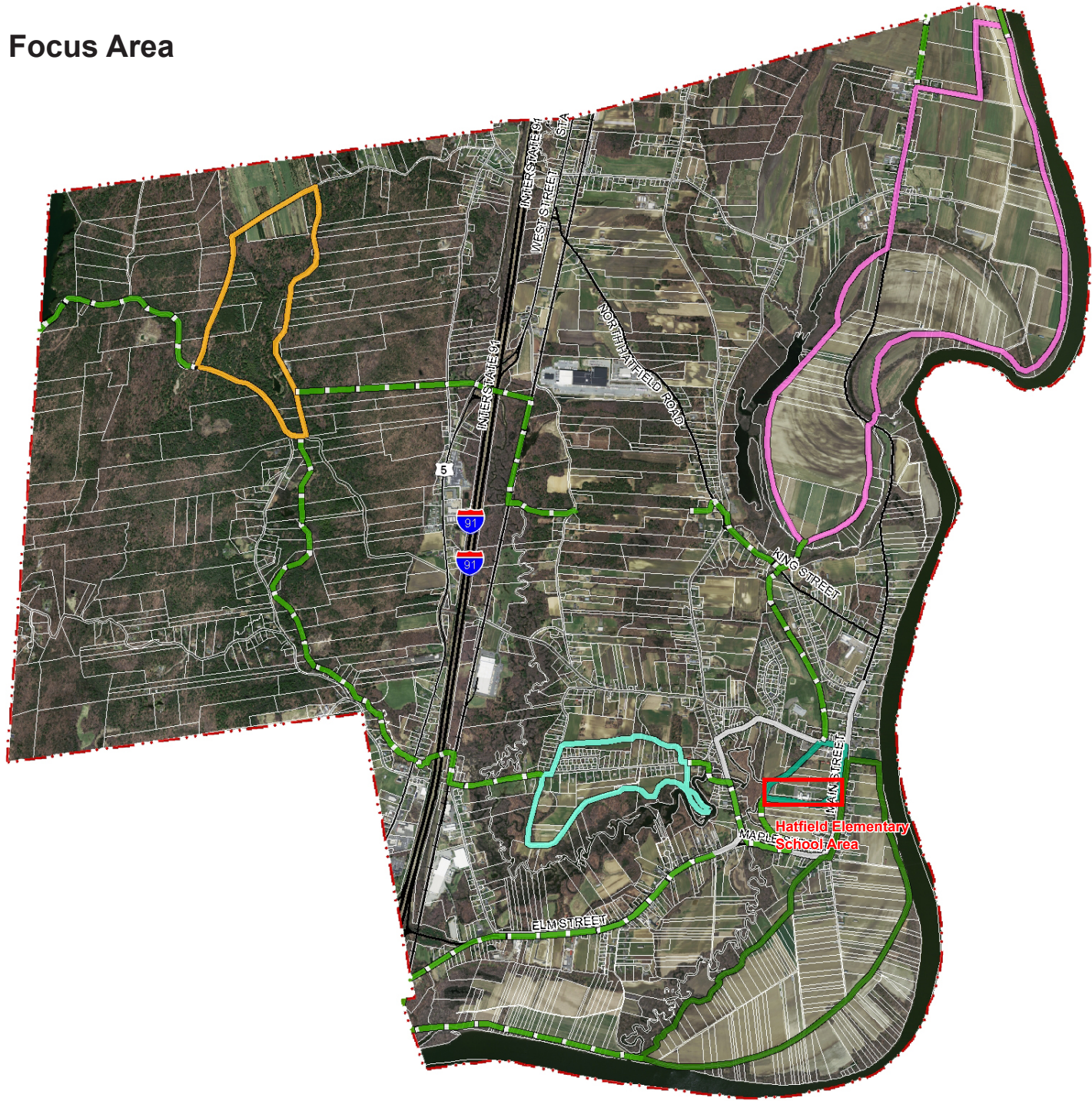


A closer look at the performance pergola shows the beautiful stone work on the stage along with the craftsmanship that went into the construction of the pergola.



The baseball field is located in between the Connecticut River and the Dyke walk. The bleachers are nestled into the landform to create a naturally elevated platform for fans to cheer for there teams.

:: Focus Area



GREENWAY DESIGN

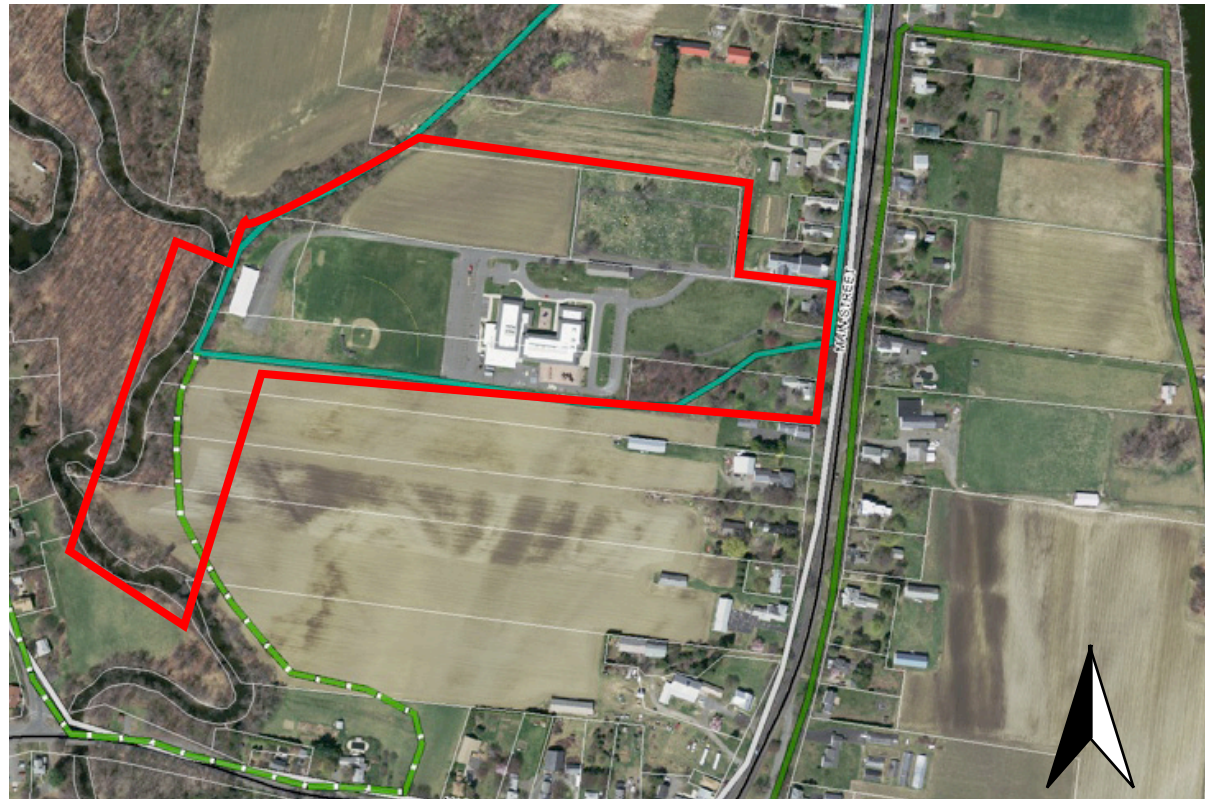
:: Hatfield Elementary School Area

The Hatfield Elementary School is located just off of Main Street in the town center. The fields in back of the school have been one of the major sites in Town for outdoor athletics. They have been used both by the school and community groups. However, the construction of the new Borer School is now taking up this land. The tennis courts originally in this area are gone as well as the basketball court.

An outdoor Pavilion is also located on the grounds between the fields and the Mill River, which borders the western edge of the property. The pavilion hosts various private and community groups for barbecues, dance festivals and celebrations. Its open feel makes it a great location for activities and also includes public rest rooms. Within this area of focus there are 5 different areas, each with a different purpose, feel and completion. When entering the focus area from main street the first area you enter in the existing town green space, which includes mature vegetation and a pedestrian walk leading people to the next space. The Elementary School.

To the right of the elementary school is the Old Historic Cemetery. Adjacent to the cemetery is a large open field that was recently purchased by the town to make up for lost recreational space lost by construction of the new school.

The last space, the recreational playing fields, are located behind the school. Currently the space has a baseball and soccer field.



Existing Site with Boundaries

After analyzing the town and more specifically this site as well as meeting with residents at the public meeting there were some important key points that came up that could needed to be addressed:

Limited Access: Currently vehicles, bicyclists and walking pedestrians only have one area to enter and or exit the site on the southern edge of the property. Additional access for emergency vehicles is needed. This can be additional access could be incorporated into the bike path system which meanders through the site.

Unity: There is a lack of unity within the five separate spaces therefore the spaces feel like five separate spaces rather than one unified space. Using hedgerows to define spaces, as well as connect them is one approach that could achieve more of a unified feel.

Ecology: The Mill River, which defines the western edge of the property, has a limited riparian edge to buffer the river from leeching of chemicals and nutrients from the adjacent farmland. The buffer also has to much fragmentation which is limiting its potential for greater ecological benefits and habitat.

New Field Parcel: Adjacent to the cemetery is a recently purchased parcel of land which had previously been used for agriculture. There is a potential for this space to add a significant amount of space for recreational activities as well as allow for expansion of the historic cemetery or memorial space.

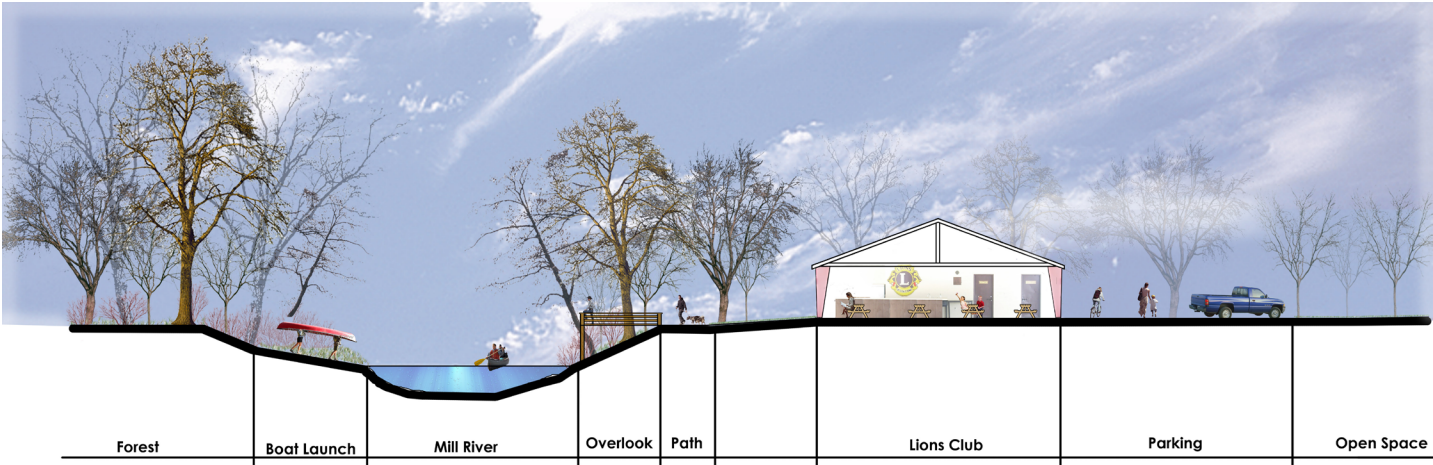


Proposed Plan

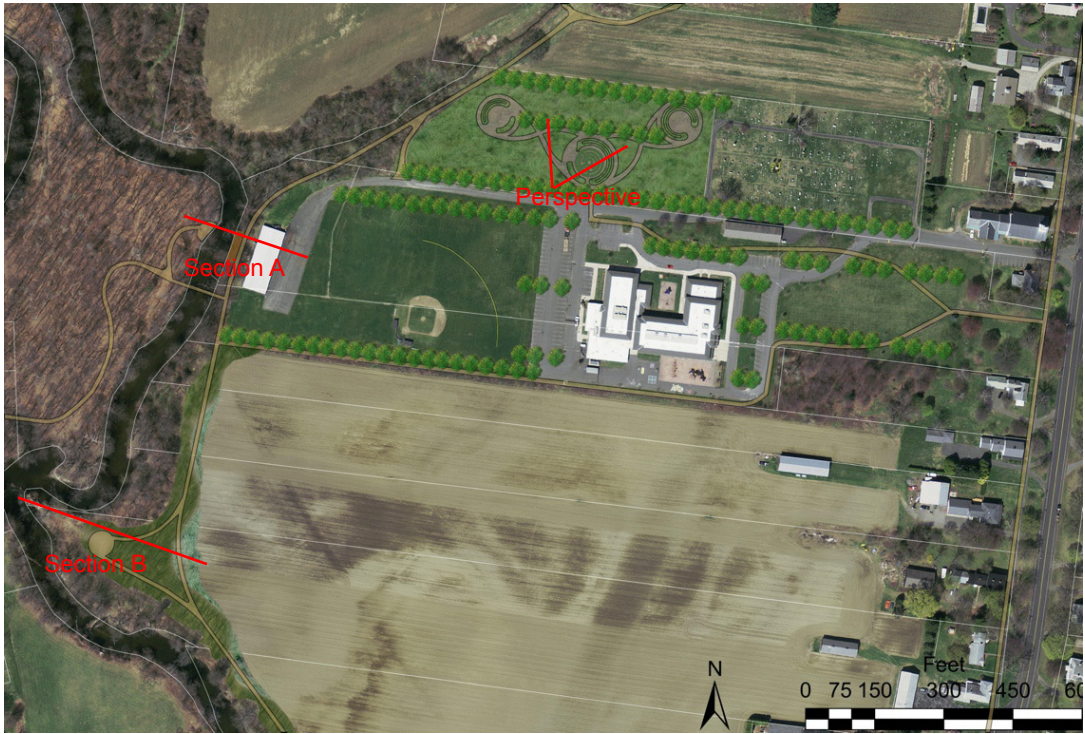
A purposed bike path system enters the site on the southwestern edge of the site. The path is separated from the agricultural field by an increased riparian buffer. Once you come to the Lions Club structure the path allows for an option for pedestrians to turn east and continue towards the recreational fields, the elementary school and main street or pedestrians can continue north through the newly acquired field space onward to Town Hall and/or Smith Academy. At points in the system the path has secondary paths that lead to purposed public Spaces for public use. A clearing in the forest allows for a space for people to come to rest or a outdoor classroom. A pedestrian footbridge allows safe crossing over the river and leads to a space for people to launch their canoe's. A wooden overlook allows people to observe the beauty of the river and acts as an extension of space from the open feel from the Lions Club.

The newly acquired farmland has been transformed into a multifunction space. Mowed paths through field grass and wild flowers lead to three circular spaces. Each of these spaces is slightly defined by landform to help direct views towards key landscape features. The most eastern space yields views towards the cemetery and allows for the potential to become a memorial space. The middle space faces inwards towards a labyrinth and acts as a play space for kids. Last, the most western space has views towards the landscapes ecological characteristics such as an agricultural field, forest, and the purposed wild flower meadow. This space can act as an educational classroom for students to learn about landscape ecology.

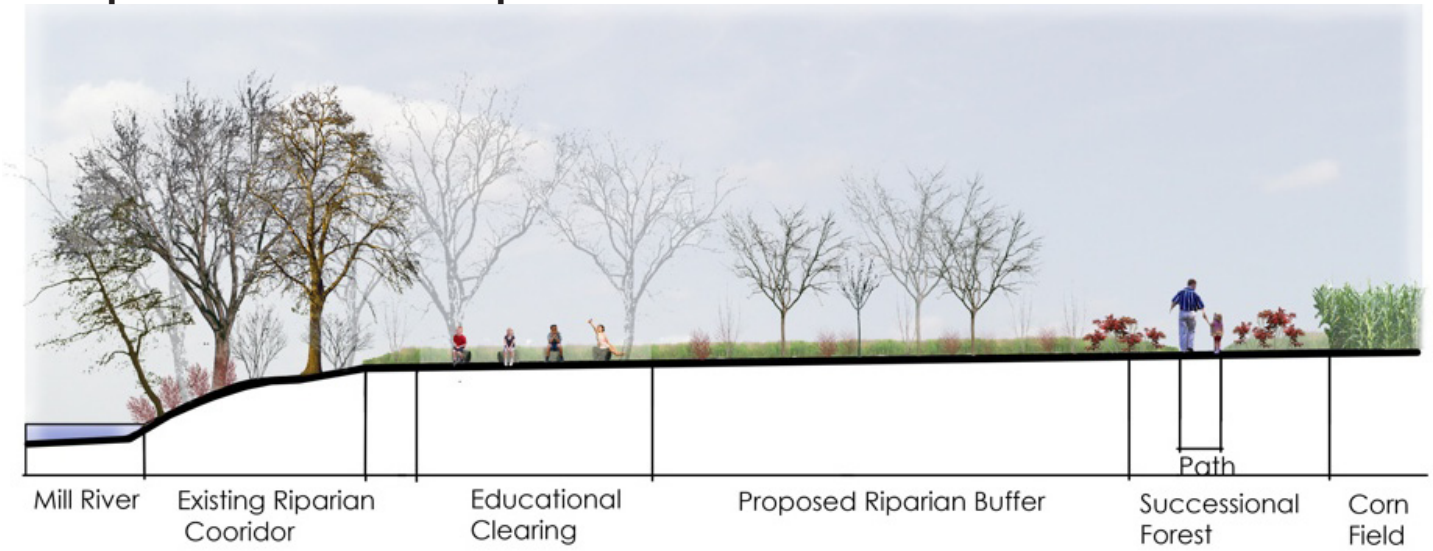
:: Proposed Section A - Overlook



A wooden overlook and a pedestrian crossing which leads to a boat launch allows pedestrians to come closer to the Mill River and observe the ecological features the river provides. The Lions Club is situated nicely to allow people to come to rest or a space for large groups to gather.



:: Proposed Section B - Riparian Walk

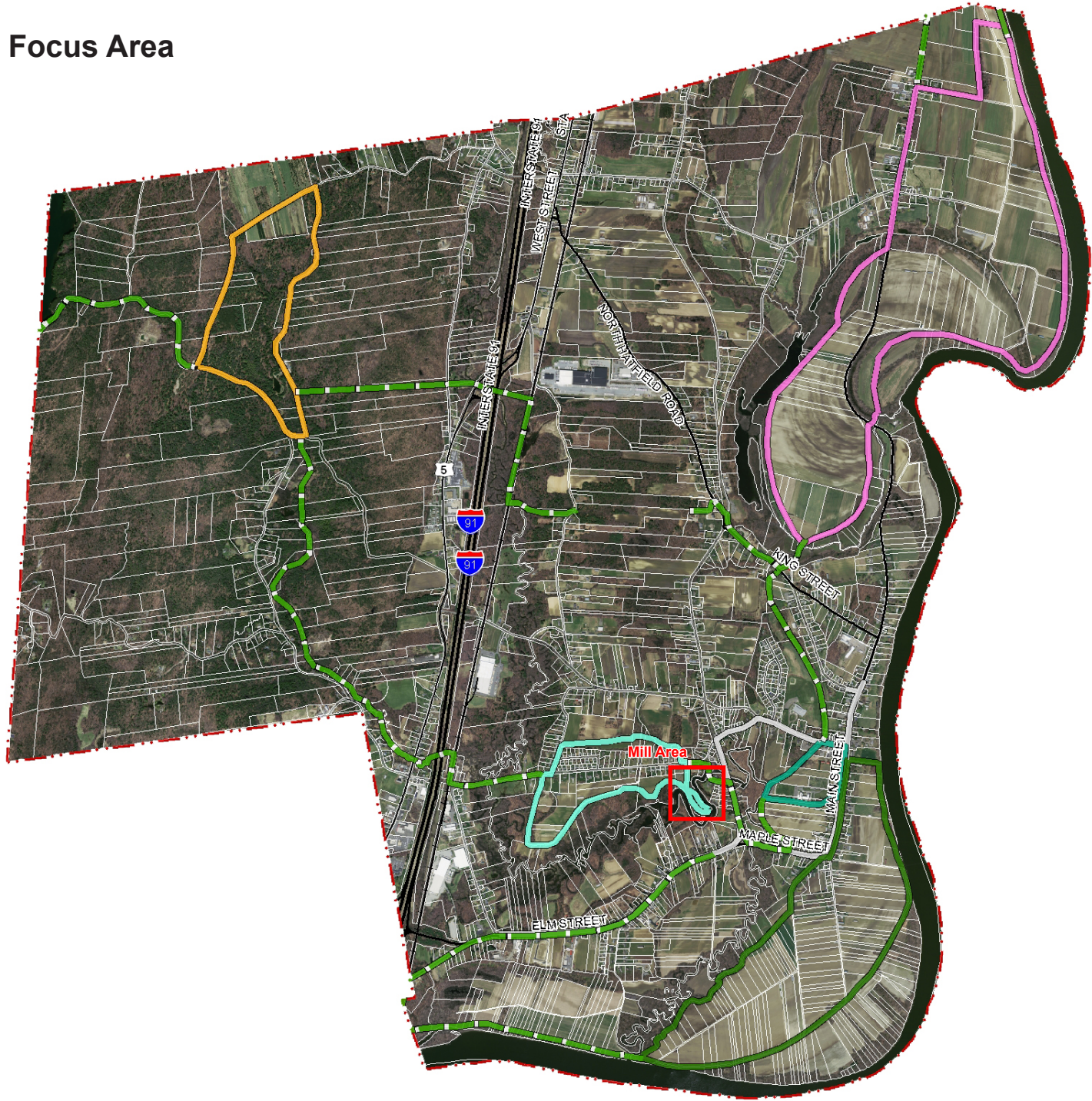


Corn fields previously ran up to the existing riparian corridor. Tractors fertilizers and other potential contaminants could easily leech into the mill river. Increasing a vegetation buffer between the river and the fields will minimize leeching and protect the ecological unity of the Mill river.



Mown paths lead you through a labyrinth within the space. The labyrinth has an edge consisting of red bricks and is vegetated with a wild field mix of wild flowers. Gently rising earth further defines the space and is also vegetated with wild flowers.

:: Focus Area



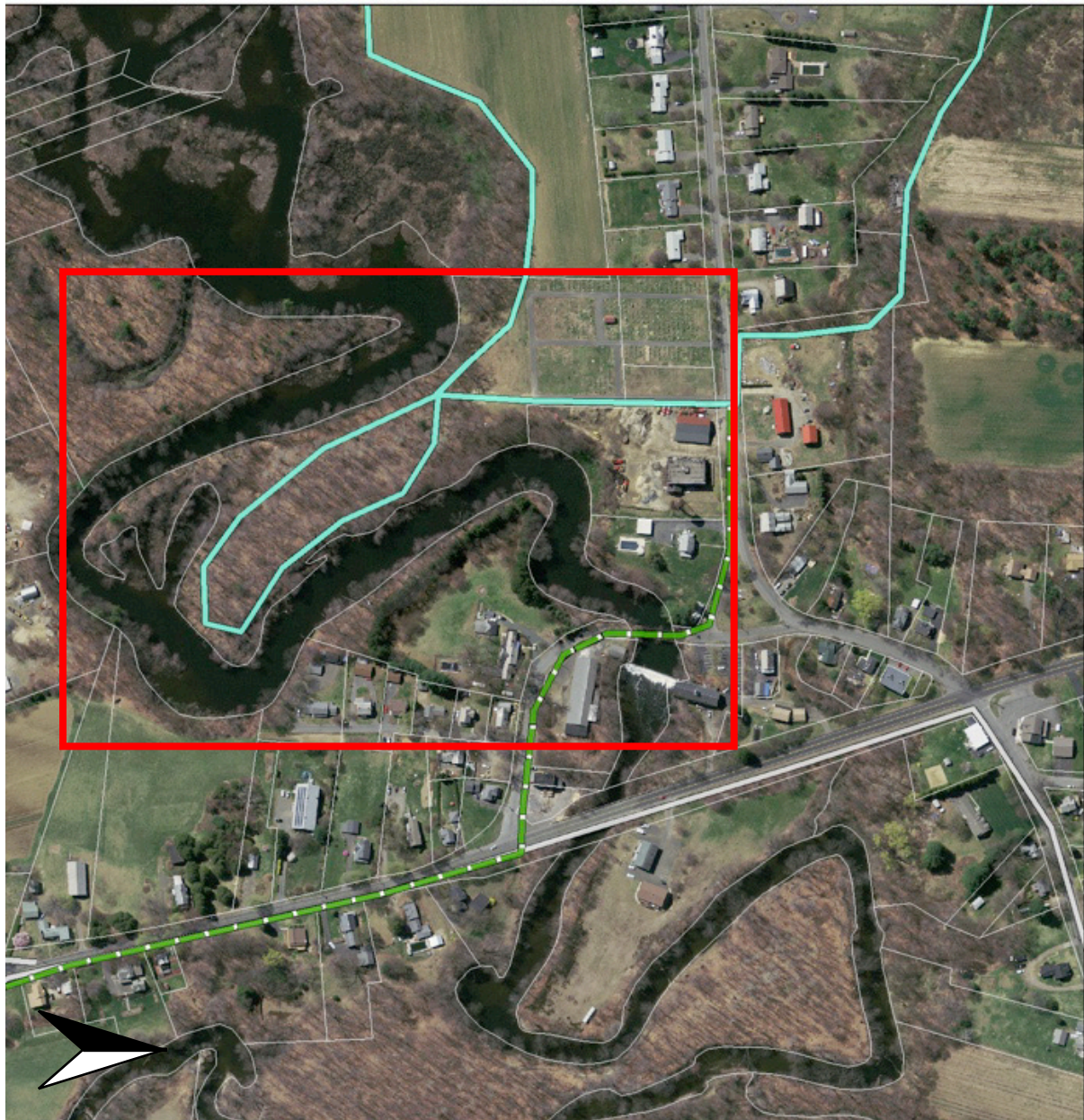
GREENWAY DESIGN

:: Mill Area

This historic region of the mill and the old water tower give a unmistakable character to the town that needs to be highlighted. To highlight these existing features design elements are used that strengthened the existing historical features. By using features like raw steel for structure, stone walls, and historic native plants I will be keeping to the old New England style town culture Hatfield possesses. I am proposing the old bridge crossing from Prospect court to School Street be reopened for pedestrian access only. The bridge's steel frame will remain the same with some adjustments made to reinforce and make it safer but also will create a resting space on the bridge to give residents a space that overlooks this beautiful old damn. By keeping to the steel construction of the existing bridge and old water tower they will share that old rustic look.

Since the old mill in the area was used for wheat processing and flour production I felt this needed to be highlighted by designing the mill triangle out side of the historic mill. By planting the triangle with plants that mimic wheat I will be referencing the historic attributes of the old mill. I will use a species called Hairy Wild Rye or Elymus Villosus, this tall grass is endangered native in the area. This tall grass will be planted over a mounded landform that have new England stone walls emerging out of the landform. These old new England style stone walls will be in line with the historic mill and historic water tower. The subtle wall emerging from the landform will direct your attention down the wall because they are positioned carefully at head level. This simple design will create a strong connection back to that idea of highlighting these historic features while not over designing the small space.

Next I would like to propose a land easement on the private commercial yard that has the historic water tower. This water town really keeps with the old New England farm feel of the area and it needs to be preserved. To preserve it and highlight it will become an entrance to the new water tower peninsula park.



Existing Site with Boundaries



Proposed Plan

:: Proposed Section

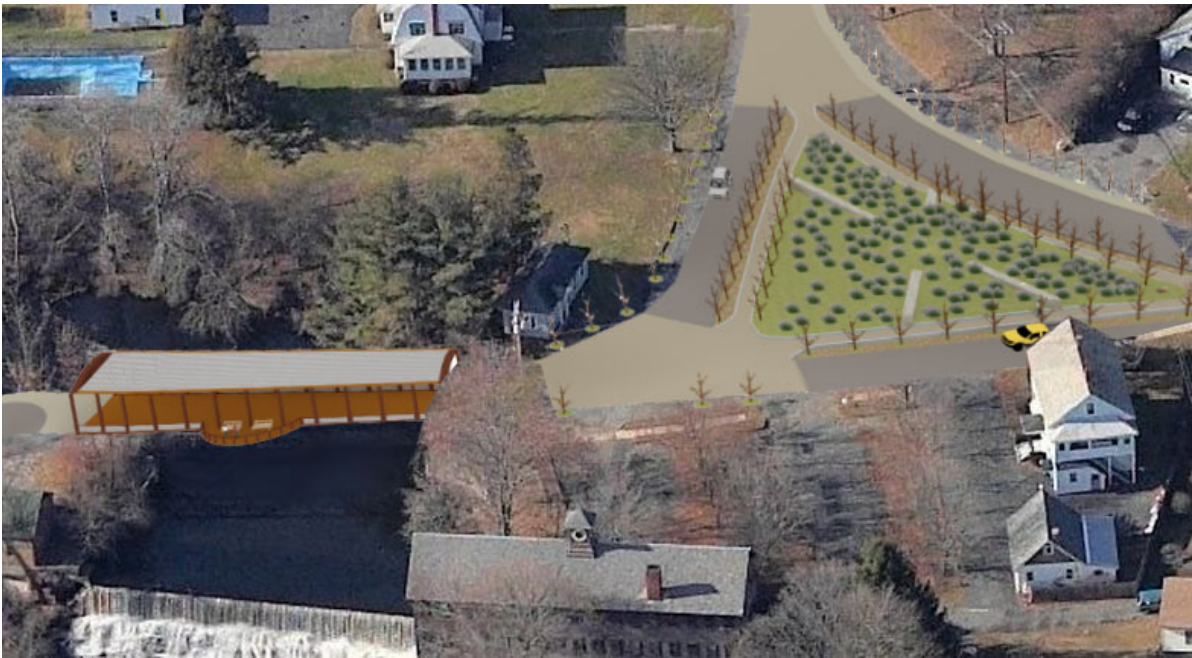


The section above illustrates how I will define space and corridors with lines of trees and shrubs. This simple delineation will be a relatively inexpensive way to show where pedestrians should access the park and where you should not walk in the park. This simple system will protect the wildlife and fauna from being trampled. At the edge of this space there is a river walk out. To go along with this idea of minimal impact in the river and surrounding ecosystem the platform will be fastened into the land above the flood zone. This will make it so we will not have to interrupt the river floor.

:: Proposed Section



The section above again shows how the space is defined by the tree row and understory shrubs that line the space. At the edge of the space along the river there are large boulders brought in from the area. These boulders not only look great and protect against erosion of the waters edge they also create an ecosystem where fish can lay their eggs. The fishermen and women will be able to access the river without have to walk into it. Along with this designed space there will be signage explaining the Massachusetts fishing and game regulations on fishing in the river. This fishing hole will be a great place for long time fishermen and women along with residents who would like to begin fishing to come and experience the river.



To keep with the idea of not over designing and making sure the designs future maintenance is kept to a low cost I recommend that these spaces and corridors are only delineated with trees and shrub layer creating an edge to both spaces and corridors. At the present time the peninsula is already used for a canoe launch. I recommend that with this canoe launch a drive between the grave yard and commercial property be proposed. Along the drive there is a long term parking after the grave yard and a short term parking lot be brought down to the canoe launch. Making this drive and parking will cut down on residents driving off a defined path that could interrupt wildlife.

Along the pedestrian path system I have proposed that three spaces be defined besides the existing boat launch. When looking at the peninsula I thought it would be great to be able to have a walkout platform over the river that really lets you experience the river without having to get wet. This space will be a great place for environmental education through signage that goes over important birds fish and animals of the area. The next space will be fishing rocks. This space will be a place where fly fisherman can come and fish right out in the river without having to put their waiters on and interrupt the river. The space will also educate fishermen with signage reminding them of Massachusetts fish and gaming regulations on fish size and limits.

The last space at the end of this pedestrian corridor will be peninsula point park. This space is at the end of the peninsula and is created for residents to connect with the forest. I want to thin out the understory but leave all of the existing trees. This can be a place where children and families come to experience the New England forest. I would like to label some of the larger specimen trees like an arboretum to educate the residents on the native trees of a New England forest. All of these improvements to the area of the historic mill will highlight its existing features by keeping with the old new England farming design elements. The old rustic steel water tower and covered bridge, the native New England planting, and old New England stone walls are these elements that unify the area and really accentuate what is existing.



These before and after perspectives of the old bridge show how I want to use the existing frame and rock support to reopen the bridge connecting School/ Bridge street to Prospect court.



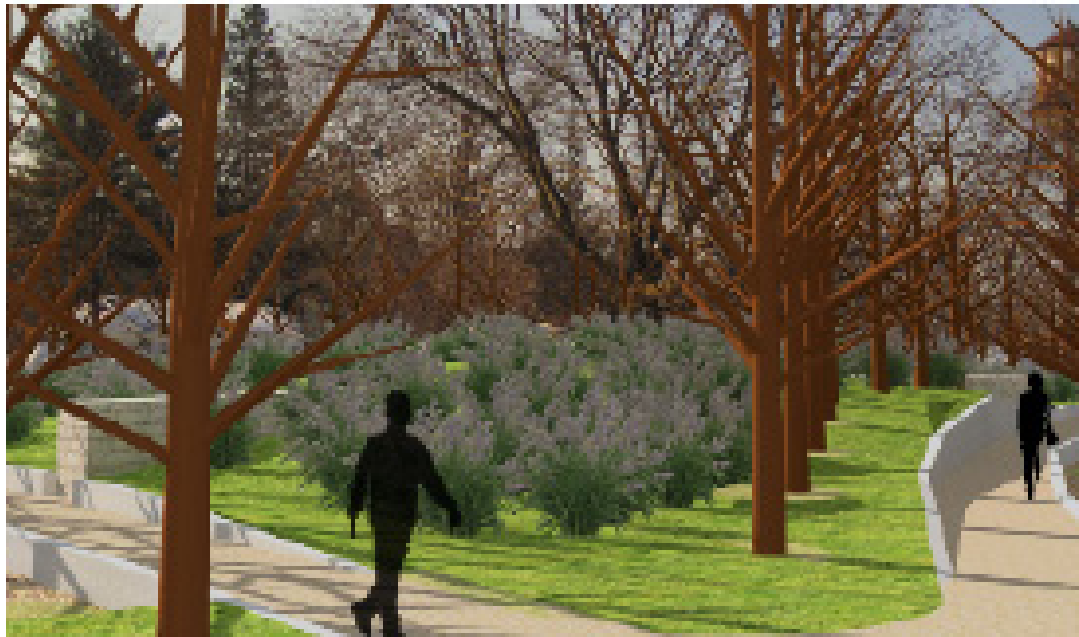
From another angle, the existing bridge



New aspects added to the proposed bridge is a look out space in the center that overlooks the damn and the river. Also we want to cover the bridge to give it that old New England covered bridge feel that the area already offers.



Proposed bridge with look out area



North Corner of triangle looking at mill

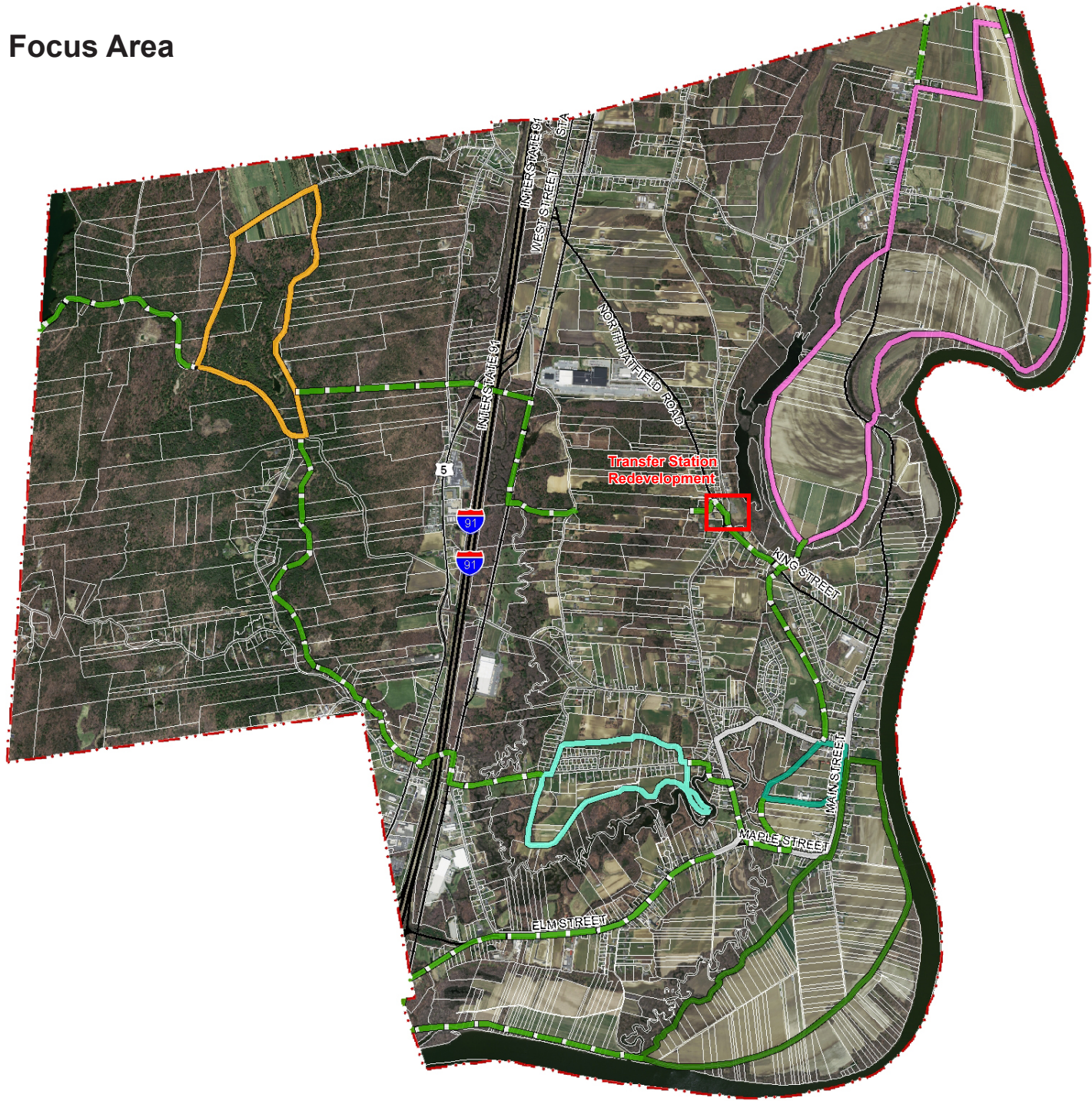


New England Stone wall directing views towards mill



The perspectives explain how the raised pavers around the triangle direct the flow of pedestrian traffic into the mill triangle and slow down the flow of vehicular traffic. The swales on the edge are filled with crushed stone and tree plantings collecting and infiltrating the water from the street run off. As you can see the land form with New England stone walls emerging from the land direct your views towards the mill and water tower. The triangle really captures the essence and history of the area through its native fauna and New England stone walls.

:: Focus Area



GREENWAY DESIGN

:: Transfer Station Redevelopment

The space now cleared can be changed into a hub along the bicycle trail, called the Great Pond Vista. The bicycle route cleared along Main Street and up North Hatfield Road leads alongside the transfer station, and a tertiary loop that encircles the transfer station will be joined to it. The loop enters the Great Pond Vista area on the southern side, approaches the hub, exposing the view over the pond, river, and mountains, circling the transfer station, and back onto the main loop.

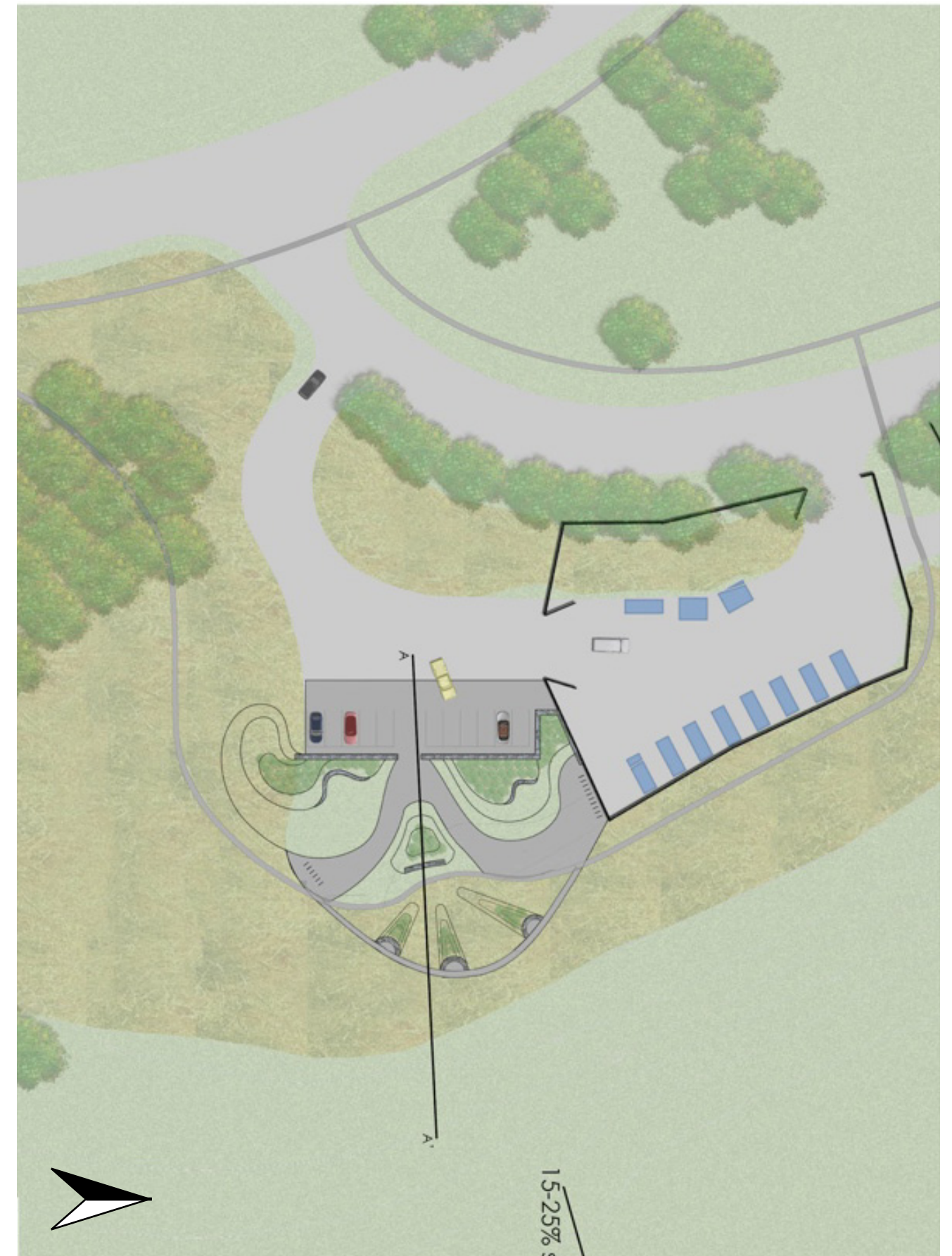
The Vista area is composed of 10 parking spaces and a series of seating scoop spaces tucked in between landform and vegetation. As shown in section, a pattern of stone wall retaining landform and acting as seating occurs throughout the space. This design of undulating landform and vegetation creates seating areas that both expose the amazing view and enclose the users of the park, creating intimacy in a public space. As shown in hand rendered perspectives, a series of scoop spaces create niches that both create privacy and guide views. The three figures shown illustrate this relationship between user and landform.

A noteworthy amenity to the area are the bicycle racks. The development of the Great Pond Vista area is directed not only at those who arrive by car, but also for cyclists traveling along the bicycle route as shown on the Master Plan. With a lack of public open space, Hatfield would see a great deal of attention to a small park area. Hatfield has such potential in its majestic views of the landscape that a space like this is vital in celebrating it.



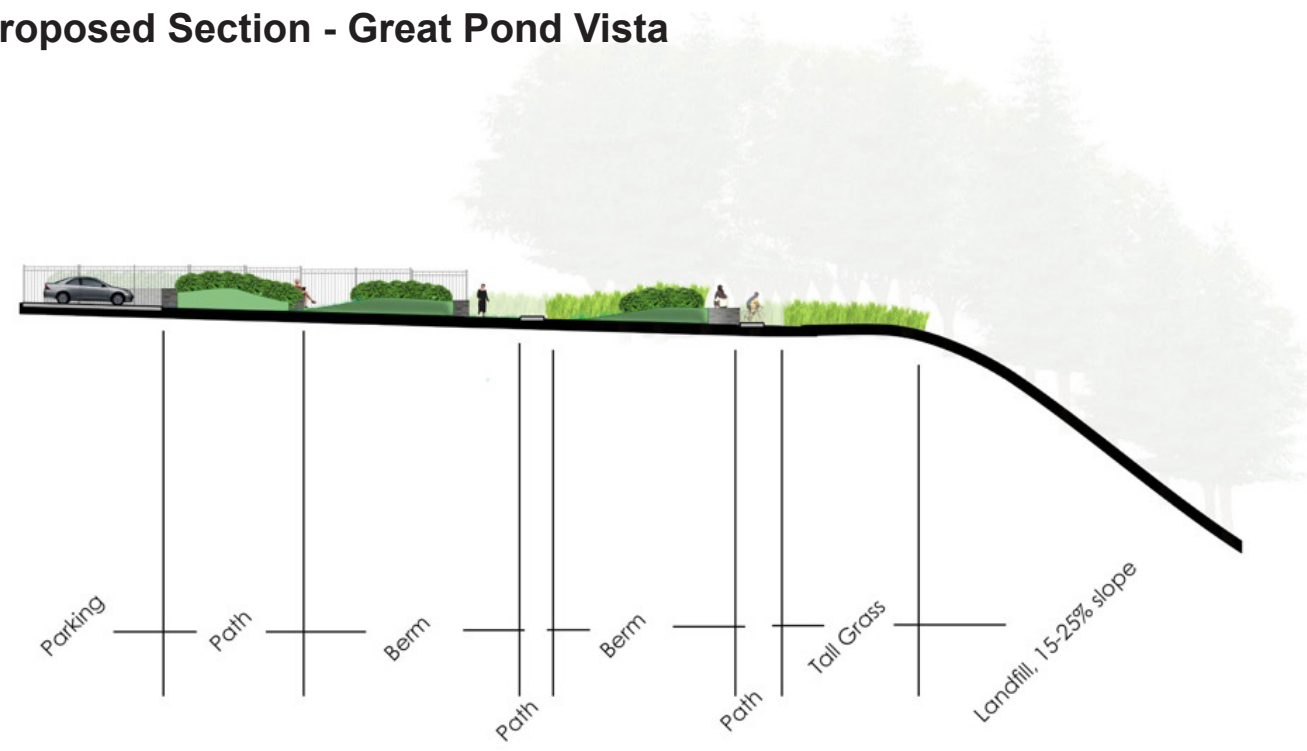
Existing Site with Boundaries

Another area focused in on for further design is the transfer station area to the southwest of Hatfield's Great Pond. The area has design potential in its perched views looking over the Connecticut River, Great Pond area, and distant mountains. The location of the space fits well in the proposed bicycle trail running through town, and could be a highlighted addition to the town's open public recreational space. Currently, the transfer station has ample space for the amount of bins and recycled material or trash necessary for Hatfield. The proposal shown demonstrates a possible redesigning of the transfer station's provided space. First, the transfer station's dumpster bins could be reorganized in rows to preserve space. This opens up a large, paved area, under utilized and open for possibilities for the town. To continue to keep the transfer station protected, the fence which currently runs along the perimeter will be re-routed along the new, smaller organization of dumpster bins. In accordance with the needs of transfer station, an area wide enough for large vehicles will be kept clear for continued accessibility into and around the transfer station.



Proposed Plan

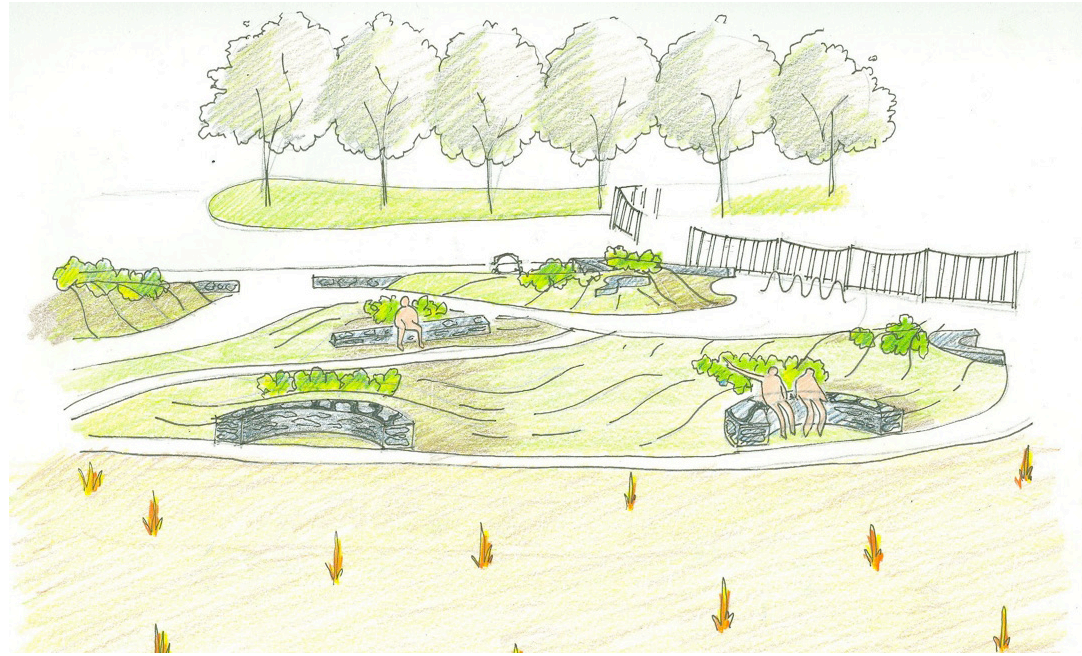
:: Proposed Section - Great Pond Vista



As shown in section, the Great Pond Vista is composed of a pattern of New England style dry-laid stone wall, landform and vegetation, wall, and path space. This use of landform and plants creates scoop spaces that provide both prospect of the view and a feeling of refuge from other users moving through the space.



This perspective shows the ability for landform to both guide views and protect other users of the park from being seen.



From birds eye view the shape of landform is evident. The undulating forms mimic the soft curves of the nearby mountains and work with vegetation to define each scoop space.



Scoop spaces on the periphery of the Great Pond Vista provide both intimacy from the park and transfer station as well as exposure to the vast view.